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THE

# ALIENIST AND NEUROLOGIST

A QUARTERLY JOURNAL

OF

SCIENTIFIC, CLINICAL AND FORENSIC

## Psychiatry and Neurology.

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*Intended especially to subserve the wants of the  
General Practitioner of Medicine.*

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“Quantum ego quidem video motus morborum fere omnes a motibus in systemate nervorum  
ita pendent, ut morbi fere omnes quodammodo Nervosi dici queant.”—*Cullen's Nosology: Book  
II, p. 181—Edinburgh Ed. 1780.*

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VOLUME II.

—EDITED BY—

C. H. HUGHES, M. D.,

And an associate corps of collaborators.

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No. 1.

ORIGINAL CONTRIBUTIONS AND TRANSLATIONS.

Art. 1.—Contribution to Cerebral Localizations.\*

*By Dr. Lorenzo Monti, Medical Superintendent of the Insane Asylum of Colorno, Italy.*

Translated by JOSEPH WORKMAN, M. D., Toronto, Canada.

*Amnesia and verbal paralysis with right hemiplegia and contracture.—Softening of first frontal and of the posterior of the third frontal on the left.—Apoplectic foyer in the left "caudate nucleus.—Atrophy of all the left cerebral and cerebellar hemispheres, and lesion of the cortex of the parietal region.*

SANTINA B. was received into the old (now suppressed) Asylum of Parma, in January, 1862, because of a light degree of dementia, with *aphasia* and *right hemiplegia*, and contracture of the great toe of the right foot; all which phenomena were said to have followed a strong cerebral congestion. She remained in the Asylum of Parma many years without having, as far as could be observed, presented any deterioration. In July, 1873, she was transferred, with all the other insane, to the new

\*From the *Rivista Sperimentale*; Anno VI.—1880.

asylum at Colorno, when it was not possible, after so many years, to obtain accurate historical notes of the case. Having reached the age of 49, menstruation had ceased. She was in excellent nutritive condition, and presented no disturbance in the thoracic or abdominal organs which were carefully examined. She was of middle stature, had thick, black hair, a well formed cranium of brachicephalic type, and an apathetic, silly physiognomy; she walked with much difficulty, warping the right leg, and she took no part in work, being unable to use the right arm. No lesion of the muscles of the face was observed; the movements of the tongue were regular; the muscles of the neck, on the right, were much impeded in their lateral movements, and always appeared stretched and rigid. The right arm was completely paralyzed, and was flaccid and less nourished than the opposite one; the lower limb of the same side was in almost the same conditions, but it was rather less impeded in its movements, since, as we have mentioned, the patient managed to walk; a strong and permanent contracture was presented in the right great toe. The temperature of the right paralyzed limbs was constantly four degrees under that of the sound limbs; the dolorific sensibility was normal on both sides; specific sensibility, with the exception of the visual, which was normal, could not be satisfactorily examined, owing to the aphasic state of the patient. The dynamometer gave K. 55 on the right, and 70 on the left; ophthalmoscopic examination gave negative results. The patient was always quiet and docile, showed no desires for anything, and did not speak. This state of taciturnity depended not so much on her general mental debilitation, as upon her impairment of language. She had completely lost memory of words, and therefore she did not speak, being unable to clothe in words her few ideas; merely when an urgent necessity constrained her, she uttered a broken complaint, because she found herself unable to express, in appropriate words, her desires, and she did not cease from weeping until she heard those present

pronounce the words which conveyed her ideas. On being asked to designate anything presented to her by its right name, she could not apply to it the proper word, and perceiving her error she promptly corrected it, by unsaying, with the monosyllable *no*, the word she had used, and not before suggestion of several names would she repeat that one which perfectly corresponded to the object presented to her. It frequently, however, happened that she was quite unable to repeat the names which were suggested to her, or she did so with manifest difficulty, pronouncing them badly. It was therefore manifest that her alteration of language, besides representing the character of *verbal amnesia*, represented also *verbal paralysis*.

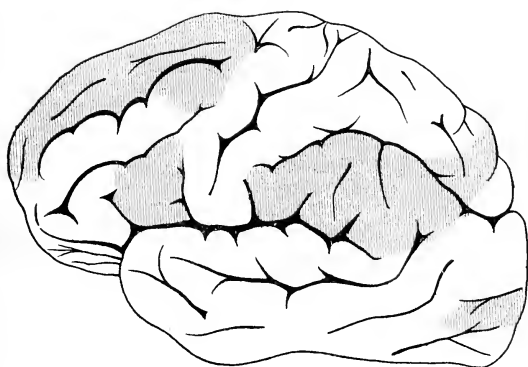
In the physico-moral state above described, she continued until December, 1879, when she was taken with symptoms of intestinal catarrh. During her residence in the asylum she never had been affected with any incidental disease worthy of remark; much less did she suffer convulsions or any other nervous disturbance. Being finally seized with a profuse diarrhœa, she died in January, 1880, in slow collapse.

In the autopsy, held twenty hours after death, general nutrition was observed to have been good, and the skin was pale, tense and glossy; incipient, blackish spots were observed over the abdomen. The skull was thick and of regular form; the dura-mater was normal; the other meninges, on the convexity of the left hemisphere, appeared a little wrinkled, especially in correspondence with the foot of the third and first frontal convolutions, and the anterior part of the inferior parietal, where they formed a notable folding resembling a purse, under which appeared an abundant liquid exudate, bearing a saffron-yellow color. On the rest of the left cerebral convexity, and also on that of the right, there was observed under the arachnoid, a distinct collection of gelatinous exudate, of citron-yellow color, and along the superior inter-hemispheric borders, the arachnoid was thickened and infiltrated

with a white fibrinous exudate. On the base there was a smaller collection of gelatinous exudate beneath the arachnoid. The pia-mater on the right was slightly congested, but much more so on the left and between it and the underlying convolutions on the left there was a copious collection of the same exudate, of reddish-yellow color. On removing the pia-mater, this exudate readily escaped; but on the left side, in correspondence with all the first frontal, the posterior half of the third and all the inferior parietal, it was much more dense and stuck to the cerebral surface; and here the pia-mater was with difficulty detached from the softened and flattened convolutions. All the right hemisphere was normal; the left, on the contrary, was manifestly very small, atrophied and as if flattened and pressed down upon the base, and the left hemisphere of the cerebellum presented the same alterations.

The atrophy of the left hemisphere extended over the convexity, the base, and the island of Reil, with the exception, however, of the two central ascending convolutions (F and P), which, when compared with all the other parts, appeared much enlarged. These two convolutions were not in due line with those of the opposite side, but were carried forward by the notable reduction or atrophy which the whole frontal lobe had undergone. Being compared as to weight, the left cerebral hemisphere was 83 grammes less than the right, and the left cerebellar 10 grammes less than the right. The occipital lobe was naturally squeezed down.

Describing now minutely the more grave and important lesions met with in the diseased hemisphere, which are seen (colored) on the preceding figure, we noted all the first frontal softened, broken down, almost destroyed and up to its foot atrophied. The softening extended into the interior of the convolution, and was carried down to the convolution of the corpus callosum, which was a little destroyed at its anterior part. The second frontal, in its foot was also softened and destroyed deeply, so



The Shading shows the diseased parts.





that at first it formed there a notable excavation. The third frontal was softened, broken down, and as it were, eaten away in the posterior half. The superior parietal, in its posterior part, was extremely softened; all the inferior parietal, including the angular gyrus, presented softened convolutions, depressed and a little broken down, and on its anterior part was much eroded and presented a notable excavation. Finally, the second occipital in its posterior part was also a little eroded and softened. The surface of all these lesions, and especially the interior of the cavity above described was covered by a reddish-yellow detritus and by the thickened pia-mater, which adhered strongly to the convolutions covered by it, and these were eroded, atrophied and softened. On the interior of the left hemisphere, in its oval center and in the basal ganglia, nothing abnormal presented, unless that in the caudate nucleus there was observed a cavity very narrow, and about half a centimetre deep, containing a detritus of chocolate color. This cavity had a direction from within outwards, so that it overlapped the posterior part of the internal capsule, which must therefore have undergone a certain degree of compression.

A clearer or more evident proof of the theory of cerebral localizations could not be afforded than that presented by the grave and extensive lesions of the left frontal lobe. In fact, the almost complete destruction of the posterior part of the first frontal, in which *Ferrier* has localized the center for lateral movements of the head, explained that state of rigidity, in which the muscles on the right of the neck were permanently held. The other disturbance, very grave and manifest, that is the *verbal amnesia*, depended, without doubt, on the morbid state of the whole of the same frontal lobe. We have said that the first frontal was softened and broken down up to the foot and extraordinarily atrophied; that the third was in its posterior half as if eroded; and that the second, although less injured, was notably wrinkled and atrophied. Now these lesions gave a clear explanation

of the verbal amnesia, which, as appertaining to the first species of disturbances of language, that is to disorders of verbal ideation, ought to result from extended lesions of the frontal cortex, where, as *Tamburini* has demonstrated, the memory of verbal images has its seat, and the formation of the verbal ideas, which, as he expresses it, constitutes the more intellectual part of language.

*The disorders of verbal ideation cannot be limited to a circumscribed part—the third left frontal—as Broca maintains;* for in the whole of the frontal cortex, where ideas are developed and formed, the formation of verbal ideas should have place, or that investing of them which constitutes the ideation of verbal images. According to *Tamburini*, the second species of aphasia, that is disorders of transformation of verbal ideas into motor impulse, has its seat in points more circumscribed, which are in the margins of the Sylvian fissure, and especially in the foot of the third frontal, where by all observers the motor center for the muscles of the lips and the tongue has been located. Our patient, besides having totally lost the memory of words, could often not repeat those suggested to her; she was therefore further affected with verbal paralysis, which resulted from the lesion of the third frontal; and that it was not more accentuated and manifest, depended perhaps on the *quasi* integrity of the other margins of the Sylvian fissure, and especially on the inferior part of the ascending frontal.

From the studies of *Ferrier*, *Luciani*, *Tamburini* and others, it is to-day known with precision that the centers of the various movements of the different parts of the upper and lower limbs are localized in the two central ascending convolutions, and therefore, if during the life of our patient it might in a great measure be suspected that there existed in the frontal lobes those lesions which were discovered in the autopsy, yet from deficiency of the case history, and want of certainty of the presence of multiple lesions, it was held that the hemiplegia might

depend on some cortical lesion of the superior two-thirds of the two central ascending convolutions; we were then surprised in finding in the autopsy these convolutions perfectly sound. It is true, that for a hemiplegia of cortical origin, we should admit the existence of certain important symptoms, which, from what appears, were never presented—as partial lateral convulsions of a single group of muscles, primitive monoplegias, and the more late appearance of complete hemiplegia. But then, considering that among the cortical lesions most frequently observed are those of the central ascending convolutions, and having recognized, almost beyond doubt, the alteration of the frontal cortex, as well from the presence of disturbances in the muscles of the neck, as from the form of the aphasia, which is always of cortical origin when it assumes the character of verbal amnesia, it could not be excluded that the central ascending convolutions were affected, whose lesion ought to give place to hemiplegic symptoms. But, to the contrary, the autopsy showed the existence of multiple lesions, and that of the left nucleus caudatus clearly explained the primitive and lasting right hemiplegia. Although, as has been well shown by *Charcot*, hemiplegias depending on circumscribed or partial lesions of the gray nuclei are commonly transitory, little notable, not indelible, and always benign, they are no longer so when alteration of the internal capsule is added to the lesion of the gray nuclei.

The transitory character of a paralysis, resulting from partial lesions of the basilar ganglia, may indicate the existence of a functional supplementation, whether between different parts, for example of the caudate nucleus, or between this nucleus and the different segments of the neighboring lenticular nucleus. On the contrary, when the internal capsule is lesed, or simply compressed by some lesion of the caudate nucleus, the hemiplegia is then very strong and persistent. Further, if the compression or any lesion whatever of the internal capsule occupies its anterior part, which is the white tract that separates

the anterior extremity of the lenticular nucleus from the head of the caudate nucleus, then the paralysis will not be accompanied by any disturbance of sensibility, whilst if the lesion resides in the posterior part of the same internal capsule, there will be symptoms of hemiplegia and hemi-anæsthesia. Now, at the autopsy it happened that, as already stated, the small hemorrhagic foyer reaching to the exterior of the caudate nucleus produced a permanent irritation of the anterior part of the internal capsule, from which proceeded the old and persistent hemiplegia, without any disturbance of sensibility.

Taking our ground now on the phenomenon of the early and permanent contracture of the right great toe, let us see if during the life of the patient this part could furnish to us any very secure indication for diagnosis of the morbid condition, and if at the autopsy it served in association with the diverse microscopic discoveries, as explanatory of the case. From the studies of *Maragliano* we know that when with paralytic disturbances or hemiplegia, there is from the outset a contracture associated, this should be regarded as a cortical lesion. Early contracture, *Maragliano* affirms, does not exclude cortical hemiplegia; but it is met with far oftener in lesions of the cortex, then in those of the central organs. Now, the existence of this contracture confirmed us in the suspicion that the hemiplegia must be of cortical origin; but on the contrary, from the fact of the lesion of the caudate nucleus, and the manifest compression of the internal capsule, we must hold that the contracture was dependent on the latter lesions, and hence was of central origin.

*Pitres* admits that when the lesion is central, the symptom of early contracture is produced by irritation transmitted to the lenticular nucleus, which being excited causes that contraction of the muscles of the opposite side, which is the constant effect of experimental excitation of this nucleus. Now, in the case studied by us, the compression of the internal capsule was manifest, and hence we should readily admit that such compression

would give place to a state of permanent irritation of the contiguous lenticular nucleus, from which the early and permanent contracture of the great toe resulted.

The origin of this contracture being thus explained, it remains for us to examine the extensive cortical lesion of almost the entire left parietal region, and of the posterior part of the second occipital convolution. We must premise that during life there never was, nor really could there be (because of want of relative phenomena,) any suspicion of the existence of so very extensive a cortical lesion of the whole parietal region. In fact, although there was lesion of the cortex of the posterior part of the superior parietal, where *Ferrier* locates the center of those movements of the foot and leg opposite, which take place in walking, yet there was not observed any phenomenon of disordinate locomotion, though the whole inferior parietal was altered, along with the angular gyrus, where according to the experiments of *Ferrier*, *Luciani* and *Tamburini* are found the centers for movements of the palpebrae, the ocular bulbs and the iris, and yet there was not found any disturbance of the movements of the eyes, nor any dilatation of the pupil, and besides the absence of these motor symptoms there was also the want of those of the visual faculty, which, from the lesions above described, ought to have resulted, according to what has been established by *Ferrier*, *Luciani* and *Tamburini*. *Ferrier* in fact, admits the center of the visual faculty in the angular gyrus, the other two locate it not solely in the same part, but also further back, in great part, if not in the whole of the convexity of the contiguous occipital lobe. But this want of motor and sensory disturbance should not be interpreted as a fact contradictory of the theory of cerebral localizations; on the contrary it is to be explained as the effect of a functional supplementing, or compensation of the corresponding center of the opposite hemisphere. *Luciani* and *Tamburini*, through the same supplementing by opposite parts, explain the absence of sensory disturbances, which ought to follow the destruction or alteration of the respective centers of

a single side. In fact, these writers affirm that if after the disappearance, total or nearly so, of right eye blindness, which has followed the destruction of the related left center, we destroy the corresponding right center, the disorder ensuing is not confined to the left side, but is also reproduced on the right side, where it had passed away. *Maragliano*, in his second work, seeks to explain why the sound hemisphere may cause its influence to be felt on its own side of the body, besides on the opposite side. Adopting the ideas of *Flechsig*, he admits certain fascicles of direct fibres, which, proceeding from each hemisphere, pass without crossing into the same side of the body. If such fibres exist, it is easily explained how the sound hemisphere becomes substitutive of the injured one. In fact, although the latter, by the law of decussation, ought to give place to disturbances corresponding to its lesion, yet these disturbances do not appear, because the fascicles of direct fibres proceeding from the sound hemisphere serve to maintain the normal functionality in all parts of the sound side. This fact we hold to have obtained in our patient, and as such substitutions or supplementings take place the more easily, the more slowly the lesion has been produced, so the cortical lesion of the parietal region, having been developed very slowly, as will be seen hereafter, the supplementation would naturally be developed very gradually.

Endeavoring now to explain the mode in which the various lesions above described were developed and their course of succession, it is proper first to learn whether there could exist any pathogenic relation between the profound alterations of the left frontal lobe and that of the caudate nucleus. *Luciani* and *Tamburini*, in another work, admit that in diseases which date far back, lesions of the basilar ganglia may very well represent the effect of descending degenerations, and hence may depend on alterations of the cortical zones. We do not believe this interpretation can be applied to our case, as relates to the order in which the diverse symptoms appeared. If the lesion of the caudate nucleus had been the effect of

descending degeneration, and had depended on the extensive alterations in the frontal lobe, across that part of the white substance, which, as Charcot has very well indicated, conjoins the centers of ideation with the basilar ganglia, the symptoms of hemiplegia and contracture should have appeared much later, and in succession to those of aphasia. This, on the contrary, did not happen; from the beginning of the disease the aphasia and hemiplegic symptoms appeared simultaneously; therefore we ought, without doubt, to hold that the lesion of the caudate nucleus can not be regarded as the effect of descending degeneration, but rather as the result of multiple lesions formed at the same time; as then the nature of the little foyer of the caudate nucleus was of hemorrhagic origin, so, by analogy, we should hold that one and the same process of softening of hemorrhagic origin took place in the posterior part of the first and of the third frontal. *Foerster* affirms that partial softenings of the brain may be the product of extended hemorrhagic foyers, which, according to *Haase*, when their seat is on the surface of the brain, have a form depending on that of the convolutions, seldom spherical, but more or less flattened and irregular. The frontal lesions described by us showed these characters. Hemorrhagic softening, continues *Foerster*, is presented of a reddish-yellow color, and when death does not soon happen, the sanguinolent pul-tace becomes a mass of brick-red color, or saffron-yellow, and is fluid and friable; it is surrounded or covered in part by the dura-mater (?) which forms on the exterior a sort of purse, and on the other part by the cerebral substance which has become atrophied. Having reached this point, the foyer presents an excavation or depression more or less deep, and formed at the expense of the obliterated sulci and the softened and thinned convolutions. All this must have happened in the two grand centers of softening above described, and the pia-mater in these two parts, formed, in fact, a protuberance in form of a purse hanging and fluctuating, under which there was seen a distinct quantity of saffron-yellow exudate.

If it is admitted by all authors that the brain, as *Jaccoud* affirms, after a cortical hemorrhage, even inconsiderable, undergoes a slow and general atrophy, to which that grade of dementia corresponds which is observed in apoplectics, and, if therefore we should regard the general atrophy of the cerebral and cerebellar left hemispheres as the consequence of the two frontal centers of softening, we ought to hold that from these two centers was likewise derived that strong lepto-meningitis which we have before described. Furthermore, the pia-mater, as has already been stated, was notably congested and very strongly adherent to the convolutions; it was covered by a dense reddish-yellow exudate, which stuck to it, and was most abundant on the anterior parts of the inferior-parietal, where it had gradually given place by compression to the excavation or depression above noted, and had besides developed the rest of the lesion of the left parietal region and of the posterior part of the second occipital. It therefore follows that the lesion of the parietal cortex should be regarded as an altogether secondary fact, and as dependent on the other lesions previously formed.

This is the interpretation by which we would reservedly seek to explain the development and succession of the multiple and extended alterations above described, and we would submit them to the severe and sapient criticism of our colleagues, to whose studious attention we could not, in the interests of science, omit to subject the important clinical case narrated by us.—*Colorno, March, 1880.*

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## Art. II.—Moral Insanity, Depravity and “the Hypothetical Case.”

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### *A MEDICO-LEGAL BRIEF.*

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By C. H. HUGHES, M. D., St. Louis.

IN the annals of criminal jurisprudence is to be found a class of exceptionally desperate and immoral persons to whom lawyers, with crude and inexact notions of what constitutes true mental disease, are prone to apply the most extreme views of irresponsibility, seemingly forgetful or unmindful of the fact, that the intense display of the passions and emotions and extreme measures adopted in a rational manner to gratify them, may not be incompatible with a sound and responsible state of mind. The exceptionally bad man, who, regardless of consequences, with :

“Unconquerable will  
And study of revenge \* \* \* \*  
And courage never to submit or yield,”

takes the law into his own hand, recognizing no right or power to restrain his perverted will and passion, and with callous heart and bloody hand contrives and executes deeds of blood, rapine or vengeance, that by their magnitude startle and appall the average human mind and conscience, is regarded as necessarily insane. While by a strange and unaccountable process of reasoning, the exceptionally good man, whose life is one of more than ordinary charity towards his fellow-man, in whose kindly breast abounds a love for reaching and intense as the abiding malice and immortal hate of the other, who, “clothed in the armor of a pure intent,” no

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less securely than the heart of the other, is "mailed in scorn," is never thought of as mentally deranged\*

It is thus that the pleas of moral, emotional and homicidal insanity, proper enough in exceptional cases of real disease, have of late years been brought into popular disrepute, and come to be regarded in the public mind as mere medico-legal contrivances, planned by cunning or mistaken lawyers, aided and abetted by the co-operation of unscrupulous and mercenary or ignorant, unpractical or extremely self-sufficient and egotistical physicians, who substitute theoretical notions of psychical disease for the facts to be gleaned from clinical observation; and have, therefore, either no proper idea of, or concern for, the true line of demarkation between immoral and *morbid* mental action, and thus is justice robbed of her due, and thus are the habiliments of a noble science trailed in the dust of contumely and public contempt.

History still repeats itself in its despicable Nero's and daring Dick Turpin's, who, without the extenuation of disease, make a business, a pastime or a pleasure of crime; as well as in its pitiable *Corniers*, who, without interest, without passion, without motive, without concealment or attempt at escape, cut off the heads of innocent, defenceless children and cast them into the street; or, like the deluded Freeman, plunge the cruel knife into the hearts of their own innocent, confiding offspring and sacrifice them to God in obedience to a delusion.

And, though the world does not so long tolerate their outrageous and inhuman conduct, it has still characters like Tiberius, compounded, as his tutor on the authority of Tacitus said, "of mud and blood;" or like Caligula, whose

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\*That moral, emotional and homicidal mania are to be found less often existent, in fact, than they are made to appear before the courts, it must be conceded. The greatest intellects and observers in psychiatry have believed in their existence, from Pinel, Esquirol, Prichard, down to Bucknill and Tuke, Maudsley and our own great I. Ray; while it would be unfair not to mention in this connection that those eminent names, among them, especially, Mayo and Blandford have gained, on theoretical grounds, the possibility of mental disease existing "without appreciable lesion of the intellect." All, however, concede that such a diseased mental condition as moral insanity exists as a fact, while some deny the appropriateness of the definition and appellation.

reign begun mildly and kindly, changed in one year after a violent attack of disease, to one of cruelty and crime unparalleled. The world, however, has no longer its monster Judge Jeffreys, laughing, joking, swearing, in the intoxication of intemperance and unrestrained passion, while sentencing to be hanged or transported hundreds of blameless lives. At this day, a commission of inquiry *de lunatico*, would speedily ascertain if such a monster should himself be hanged or restrained as a lunatic.

On the one hand is moral depravity, deep and damning, whose extinction by the law the moral welfare of society, present and prospective, imperiously demands, while on the other is resistless disease, which merciful law, founded in the moral sense of all civilized mankind, pities and pardons.

While it is the duty of the law to draw the line between morbid and immoral acts, it must be conceded that the understanding of the mind diseased in its many phases of aberration is an intricate subject, baffling sometimes the profoundest student and the most practiced observer of psychical law and phenomena. Insanity ought to be and is, though the fact is not generally confessed by them, to lawyers a stumbling block, for, unmindful of the fact that correct notions of this disease and its unfortunate victims, as every practical alienist to-day will confess, are only to be obtained by long and familiar intercourse with them. The members of the bar glean from books that little dangerous smattering of knowledge which either transforms them into bold skeptics or timid and weak sentimentalists, respecting the connection between and severance of, insanity and vice.

They become extremists, and either regard all great crimes as the offspring of disease, as an occasional medical man has done, or look upon those who, from the standpoint of real observation, know that disease enters largely into the causation of much of the otherwise inexplicable and unaccountable immorality and crime in the land, as mentally "biased by overmuch intercourse with

the insane. The asylum superintendent is facetiously termed by them an "insane doctor," and regarded as a little weakened by the erratic company he keeps, and as holding, of course, somewhat morbid and perverted views on the subjects of insanity and crime. The interrogatories often put to the expert witness by lawyers who sometimes read much more of psychiatry than they comprehend, reveal, to the practical student of psychological science, the false or erroneous views often held by the latter, respecting the relationship which, undoubtedly, frequently exists, but which only a thoroughly practical alienist can generally correctly trace, between crime and disease. Disease or organic criminal propensity being the legitimate heritage that vice transmits to the generations which spring from the loins of the vicious, is by the legal mind often indiscriminately transposed or they are commingled. The Cains of biblical story, with their adequate and vengeful motive, appear as pardonable homicidal maniacs; and the Archangel Lucifer whose rebellious conduct justly secured his expulsion from Heaven, they would fashion into a guiltless monomaniac, whose morbid ambition and egoistic monomania would be an eminently proper "plea in bar" to arrest judgment and execution of sentence by the Almighty.

Yet these are they whom the law entrusts to sift the wheat from the chaff of the symptomatology of mental diseases, and aggregate in such a way the morbid appearances of a given case or supposed case of mind deranged, that the physician to whom their array of symptoms is submitted may make an *unerring diagnosis*. The law expects the medical man to conclude upon the existence or non-existence of disease, from the necessarily incongruous and heterogeneous collection of facts, which such a non-medical man interested in making a particularly bad case, would more likely than not bring together.

In seeking to frame a strong hypothesis of disease, especially of mental disease, the most frequent error made by attorneys is in putting together incongruous

symptoms of incompatible forms of mental aberration, such as those of acute mania and chronic dementia, advanced general paralysis and melancholia. They confound the categories, as the logicians would say, and then expect the expert to evolve order out of the chaos they make, and call it a particular form of mental aberration. Lawyers, like criminal malingerers, generally overdo their simulation, the exception being mainly where they obtain the active assistance of a capable physician in collecting and putting together their medical testimony. The result is, that even in cases where there is evidence to the physician of the actual existence of underlying mental disease, yet, "taking all the facts submitted by him to be true," which he often knows cannot possibly be true, and yet the disease sought to be proven exist, he is often obliged to rule out the disease he may really think may possibly be there because of symptoms unwittingly introduced to make a stronger case, but which really contra-indicate the existence of the probably really present disease. Thus is the cause of the client often unwittingly wounded in the house of his friends—the sanctum of his counsel. No one is really competent to construct a hypothetical disease unless sufficiently familiar with symptomatology to diagnose the diseases he supposes to exist, and with familiar acquaintance with the varied and varying aspects of mental aberration and the recognized oft-resemblance of the displays of mind disordered to those of mind rational, comes extreme caution in the search for the differentiating signs. Lawyers are not so cautious or discriminating in their search after these signs, and often present, to the astonished expert, a remarkable superstructure of disordered mental symptoms, reared upon an impossible foundation of perfectly healthy cerebral substratum; and it also sometimes happens, unluckily for the poor client *if he be really insane*, that the attorneys for the prosecution possess a better understanding of the nature of insanity than the defending attorney, in which case the analysis of the prisoner's character is more cleverly made and presented

in a light that reflects more disparagingly upon him by his foe at the bar than can be shaded over by his friend. *No victim of real exculpating disease should be subjected to a contingency in a court of justice, which may be the means of his losing a life, which public polity does not demand as the proper penalty of voluntarily violated law.*

That time-honored forensic procedure which requires a medical opinion without permitting a personal examination by the physician whose opinion is sought, and often without the presentation of any facts gleaned by medical men, and even after the suppression of essential medical facts known to the family physician, upon an array of such supposititious facts, presented often without essential qualifying circumstances or supporting circumstances, such as would have been sought for and not overlooked by an expert in ferreting out the existence or non-existence of disease, is a medico-legal *faux pas*—a fallacy of the law, because it does not tend to elicit what the law contemplates, and justice imperatively demands in the trial of any cause, namely: "The truth, the whole truth and nothing but the truth." The hypothetical case thus framed, wrongs the prisoner at the bar, outrages justice in her temple and defames science before the people. The sick man has pulse and tongue, secretions and organs to be examined "by sight of science," and that *tactus eruditus* which is most capable of properly interrogating them, is not possessed in any high degree by the hand mainly skilled in writing briefs. The absurd and foolish custom of the law, so greatly at variance with the *usual medical methods* of determining whether or not disease is present in given cases, has been severely animadverted upon and justly condemned by the highest authority in the medical jurisprudence of insanity in this land.\* In lieu of the present methods pursued in criminal cases, the appointment of a special commission was advised by him, "consisting of men who possess a well-earned reputation in the knowledge and management of mental derangement."

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\*Dr. Isaac Ray—Med. Juris Insan.—*Preliminary View*, Ed. 1800, p. 70.

The only reason we have ever heard given in justification of the custom of summoning witnesses to appear and testify to their opinions on suppositions (though the subpoena which brings experts into courts calls them to testify concerning the real case at issue, when the real case and real facts can be passed upon and the patient is in reach and could be personally examined by the medical expert), is that the expert opinion, if given on the facts, would virtually be permitting the expert to supplement the jury. (And why should it not in strictly medical questions, or the jury be composed altogether of medical experts?) In the one instance as in the other, if the expert opinion has weight with the jury, it is taken to apply to the real case at issue and the judgment on the medico-legal case is really, after all, rendered by the expert. How much better would it be to always submit the *real* case and let the medical expert decide, by personal observation as well as examination, of *all of the real testimony, what symptoms of disease should be taken into account in forming a conclusion as to the presence or absence of mental unsoundness*; to let the medical aspect of the case be not only passed upon, but searched out by medical men, either by a commission of inquiry or by attendance throughout the trial, conjoined with frequent personal observations of the man *himself*, especially if the alleged insanity persists. The risk of losing sight of facts having a possible bearing upon the existence of disease should not be incurred by the courts (the supposed custodian of the rights of the arraigned, and bound by the law to see that he has every possible chance for a complete defence and fair play), by requiring the medical expert to engage in a vicarious search for them through legal glasses necessarily obscured by inexperience in psychiatric symptomatology; not a hairs breadth of chance for life should be taken from the prisoner by any custom of the law or ruling of the court.

## Art. III.—Nitrite of Amyl in the Treatment of Epilepsy.\*

*By Prof. Edward Maragliano, Genoa, Italy, 1880.*

Translated by JOSEPH WORKMAN, M. D., Toronto, Canada.

AMONG the many medicines which have been used in the treatment of epilepsy, nitrite of amyl has found a place. The first to experiment with it was S. [Weir] Mitchell, a distinguished Neurologist of New York [Philadelphia.] Taking his departure, as many others, from the fact that in the epileptic access there is present a cerebral ischæmia, and at the same time believing that the nitrite of amyl has the property of causing dilatation of the blood vessels, he concluded that it ought to be capable of combating the disease in one of its elements, and that its principal one—which is the constriction of the cerebral vessels.

After Mitchell, the nitrite came into use by several others, among whom were *Chrichton Brown, Stackter, Bourneville, James Philip, Bride, Adriani, Talford Jones, Pick, Ladendorf* and *Schuller*.

By all these physicians the nitrite of amyl was specially employed to procure abortion of the fits, so that it was given not to combat the disease itself, but rather that when a fit was approaching it should either fail to be manifested, or at least, it should be mitigated in its violence.

This special object to which the nitrite was directed, led to its use merely in the moment prior to the occurrence of the fit, or on the first appearance of one.

The method selected by all for its administration was that of inhalation. The dose usually employed was five to

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\*From the Italian of *Note di Clinica Medica*.



ten drops, once or oftener daily, given on a handkerchief or any other similar cloth, by breathing from it from five to ten minutes.

The treatment thus instituted gave to the greater part of the physicians excellent results, in cutting short the fits at the moment of their approach, especially when the inhalations were administered in due time.

The special mode of action of the nitrite on the cerebral circulation determined us also to have recourse to it in some cases of epilepsy; but we believed it advisable to use it in a manner somewhat different from that hitherto followed, and with intentions different from those of previous experimenters.

For the majority of the cases it appeared to us too small a compensation merely to moderate or cut short a fit; we therefore decided on endeavoring to discover whether in any case the nitrite had the radical virtue of modifying in a constant manner the cerebral circulation, and hence of diminishing, or also completely annulling the number of the fits.

With this view, irrespective of the fits or of their development, we administered the nitrite, causing it to be inhaled in determined quantities, during determined periods of time.

The inhalations were vigorously carried out by means of little India rubber bags, into which a flock of cotton-wool was put with the quantity of the nitrite decided on poured on it. The bags were so employed that the nose was kept closed, whilst the patients could freely breathe through the mouth. With this preface we proceed to the details of our observations.

CASE.—Dellacassa Emanuele was a youth of twenty years when received into the Hospital for Chronics in 1876. He was affected with epilepsy and with frequent fits for eight or ten years past, which seemed to have been caused by a fright. From his admission the fits occurred almost daily, and often many times in each day. Having been admitted into the clinic, in 1877, he was held under observance for one month. He was then placed under the exhibition of



Professor Maragliano gives two other similar tables showing like results. He makes the following remarks under the second table:

"In the periods during which the inhalations were employed the number of fits diminished extraordinarily; but when the inhalations were suspended, the number of fits successively augmented, so that the strict relation between the fits and the treatment or its suspension was manifest."

We now present, as meriting the discreet consideration of those who feel an interest in the subject, the concluding remarks of the distinguished Genoese professor:

"If we now halt to take a glance at the special manner in which the fits comported as regarded their number and violence in the three patients whose cases engaged our attention, we must certainly concede that the nitrite of amyl exercised an influence in curbing the manifestations of the disease. Hardly had the medicine been commenced, but we discovered a diminution in the frequency and force of the fits. In the first case we saw the fits descend from forty to two in the day; and in the last case we saw them cut off for a period of thirty days, in a patient who had not for two years previous ever had exemption from them, and on whom other therapeutic means had proved fruitless. In the second, also, the fits descended from twenty and over, to five or eight in the ten-day periods.

Again, as regards the violence, we saw that before the use of the nitrite the fits were strong in all the three, and that the violent fits were more numerous than the weak; but after the administration of the nitrite, we saw, on the contrary, the violent fits almost completely disappear and give place to the mild.

*Bourneville* had seen, in one of his patients, the attacks suspended for a period of eight weeks after inhalations of the nitrite. Another patient remained free from attacks for four months after the inhalations.

*Tassi* had in three cases obtained diminution in the number of fits; but neither from his cases nor those of *Bourneville* can we draw decisive conclusions, because they have treated of individuals in whom the fits were wont to appear at intervals of some days, and hence we cannot exclude the possibility and the well founded doubt, that the retardations in the appearance of the fits were accidental. Our cases, on the contrary, from this point of view, exclude every doubt. The habitual frequency and the constancy of the daily fits, and the interruptions produce by the treatment, place it beyond doubt that the benefits obtained ought to be ascribed to the inhalation of nitrite of amyl.

Another corollary deducible from our tables is this: The action of the nitrite was not persistent, and at the most it lasted for a period of only ten days from the date of its suspension. In order to have proof of this fact it is sufficient to refer to the period in the first case, from the 5th to 14th of February. (No. 9 in our abstract.) In this period,

notwithstanding the suspension of the inhalations, the number of the fits still decreased to such an extent as to go down to two, but in the next ten days they again gradually increased. By this we neither intend, nor pretend, to deny that the efficacy of the nitrite of amyl may be extended to an indeterminate period; for it might well happen that by using the drug with constancy and permanence better results might be secured; we restrict ourselves to the simple statement of what we have observed. We do believe that the results established by us on the patients referred to and some others, ought to encourage physicians to test the treatment with more persistency. For our own part, we reserve further action, happy if we shall have induced others to follow our example.

The doses used by us call for some consideration. As we have said in the commencement of this article, five and ten drops had been habitually used in each inhalation of five and ten minutes.

*Van Ermengem*, in a complete study of the nitrite of amyl, in which he collected all the data relating to this drug scattered in books and journals, admits as the maximum dose four drops. From the reports of all those who have used it, it appears that they have limited the quantity to a few drops; and, *Catanni* gives that of fifteen drops at a time, as an exceptional dose, instancing the possible danger of a larger quantity by inhalation.

It is only in a work of *Winfield Zeigler* that we find any indication of larger doses. He says that experience has taught him that the nitrite may be administered more liberally than has been customary, and he carries the inhalation up to half a drachm twice a day. *Bennets*, also cited by *Zeigler*, encourages us to advance with security, saying that the nitrite of amyl is no traitorous remedy.

Encouraged by the assurances of these practitioners as appears from our tables, we have pushed the drug still farther than they have done.

We had commenced to experiment with small quantities, two, three, five, six and eight drops; but whether it was the quality of the drug used, or the gravity of the disease, the fact was that in several epileptics no benefit resulted. Convinced of the necessity of availing of larger doses, we resolutely began with ten drops, finally to ascend to forty in the course of one day; and yet we have not had to note any bad effect; but even with increased quantities we have seen very marked advantages. Not only in the quantities of the drug, but also in the duration of the inhalations and the number of them did we depart from the custom. In fact, we ordinarily caused the protraction of the inhalations to fifteen minutes, going up so far as twenty-five, whilst in general they had not exceeded five; and so much the more attacks were insistent, so much the more did I insist on the number of inhalations prescribing them, according to requirement, every hour."

The author next enters upon a very interesting detail of the results of inhalations of the nitrite on the temperature of the head, which is followed by a series of observations on its effects in the production of glycosuria; but

as these records would demand more space than our pages, with a due regard to other requirements can afford, we are compelled to take leave reluctantly but gratefully of our illustrious Italian confrere.

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#### **Art. IV.—Arrested Prodromal Insanity with Auditory Hallucinations and Auto-Mysophobia.**

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By D. V. DEAN, M. D., Superintendent and Physician of  
City Hospital, St Louis, and C. H. HUGHES, M. D.

**A**LIENTISTS are not unfamiliar with suspicions of personal contamination held by the insane, and, in this city, two well-known cases, at least, of mysophobia in persons not having been considered sufficiently impaired in mind to necessitate medical treatment might here be named.

The following case is somewhat antipodal, yet similar to these in its psychical display. Cases like it, too, are not rare in confirmed insanity; but the fears which the insane entertain of contaminating others pertain rather to *moral* than to physical defilement. The fear of *being* physically contaminated is more common, too, than the fear of contaminating others by reason of self-defilement; the morbid egoism of mental aberration displaying itself rather in a personal concern for self than for others.

On February the 17th last, there was admitted to the St. Louis City Hospital an unmarried German laborer, aged forty-two years, who gave of himself the following history: Two and a-half years before he worked in the lead works. After working there for a year he was compelled to stop on account of pains in the abdomen; after that he worked on a farm and elsewhere. About December

the 25th (the patient states) wherever he worked or went people would say that he smelt bad, and, on one occasion, he struck a party for saying this (and he has otherwise annoyed persons in his neighborhood by the manner in which he often communicated his suspicions of them and to them). He thought ladies in the street car said: "How that man stinks! He ought to be ashamed to come into the car."

When admitted to the hospital, the patient said so many people said he smelt bad that he thought it must be so. He could see them point to him, and sometimes they whispered and sometimes they spoke aloud of his smelling bad.

The patient was so anxious that Dr. Dean and others should not be biased and, without sufficiently examining into the case, conclude his hearing was subjective, that he said: "I know what hallucinations are, and I know I heard those things; but if you will go and ask those persons if they did not accuse me of stinking, and if you honestly tell me they said no, I will believe I had hallucinations." The Doctor even went, at the patient's request, to where he had worked, and ascertained of his fellow workmen if ever they had said he smelt bad, and learned that they had not, but they had all noticed his keeping by himself. On being informed that they denied saying anything more than that he acted strangely, he admitted he was mistaken and labored under an hallucination, and said he was ashamed to talk about the matter—but it must be understood that the patient had, by this time, improved, having been some time in the hospital.

The patient was, withal, a cleanly man, washing his feet, arm-pits and person elsewhere often; and neither Dr. Dean nor myself could discover any bad odor emanating from him.

The patient now states that, when at work in Cheltenham, the room he slept in was occupied at night by five laborers, and he sometimes slept out of doors on a porch

and awoke in the morning wet and cold with dew; that he used to wear a heavy beard and had shaved himself shortly before these suspicions began to disturb him. His nose used to discharge in cool weather, but this season it was dry. Just before this hallucination developed he felt a sense of distension—outward pressure—in his ear, and pain. The idea which he came finally to entertain that he did really stink, as he believed everybody thought he did (and he could sometimes smell something disagreeable or peculiar, though he could not quite trace it to himself), led him to accept hospital treatment willingly under the belief that he could there get rid of his obnoxious odor.

He was committed to the hospital as insane, though the false belief or delusion which he finally reached that he emitted a bad odor would have been rational enough, had the hallucination of hearing been a fact.

Under bromide and iodide of potassium and chlorate of potash, with judicious moral management, the hallucinations soon left the patient and he went to work, under pay, about the hospital grounds, in which manner he has been engaged for several months. Within the past few weeks, however, he manifests a return of the former suspicions. When he first noticed this he was working for several days near a box in which the bones from the kitchen are deposited, and which smell very bad; but he never thought of *his* stinking until others spoke of it, which he is sure they did and do. He now reasons, that if he really stinks, as must be, because people say so, it must be from his nose, and this because of the exposure, he mentioned; and, on the other hand, the fact of his catarrh and exposure leads to his more ready admission or belief that he does stink.

Thus he reviews his hallucinations, seeking, in these circumstances, to found them on a rational basis; but an assurance by us that his suspicions are groundless, though we promise to thoroughly cleanse the throat and nose, for the time satisfies him, and he returns to his work.

The man did not, in the beginning, sleep, but he does

now; and his appetite is remarkably good; none of his bodily functions are appreciably disordered. He, however, is so excessively deliberate in whatever he does, taking twice as much time as the average man for the same work, and it being impossible to hurry him, that his peculiar manner as a workman has attracted attention and remark from those about him, and he is sure they accuse him of stinking.

The case is one of arrested mania prodromata, probably having their exciting cause originally in Eustachean-tube obstruction, middle-ear trouble and vascular disturbance extending to the cerebral auditory center. An altered condition of the Schneiderian membrane, though not now apparent, may likewise have been an early causative factor.

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## Art. V.—Problems in Psychiatry for the Family Physician.\*

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By C. H. HUGHES, M. D.

PSYCHIATRY is præeminently a practical subject. Comparatively few general practitioners of medicine have had adequate opportunity afforded them of practically studying the *portean* phases of mental alienation, as they are mainly to be seen, under the present methods of treating the insane, in the hospitals. This fact adds perplexity to the problem of properly treating and disposing of insane persons when we encounter them in general practice.

The absence of that clinical experience which comes from daily intercourse with and observation of the disease, and which usually enables the general practitioner to

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\*Being part of a paper read before the Tri-States Medical Association, at Louisville, Ky., November 9th, 1889.



make a prompt and satisfactory decision in the diseases he is accustomed to more often encounter, and the consciousness of this want of the requisite clinical experience, which is not infrequently apparent is likely to occasion, either a kind of hesitation and indecision in determining upon therapeutic methods which may not be always such as the exigencies of the case may require, or to result on the other hand, in a too hasty and indiscriminate consignment of the patient to the most convenient State Hospital for the Insane. The more intelligent and skillful the physician is in ordinary cases, and the wider the range of his general medical observation, the greater will be his caution, for such a physician has a just conception of the gravity of the malady and of the grave consequences to the patient, both of premature and of too long delayed commitment.

The general failure on the part of the schools at which most of the older physicians now in successful practice have graduated, to give practical instruction in psychiatry with opportunities for clinical observation of insanity, and the absence of any considerable number of alienist physicians in the land outside of the hospitals for the insane, and the large cities and even in the former, where political considerations govern the appointments of the medical staffs and rotation in office, on the vicious principle of spoils to the victors is frequent, often leaves no alternative to the conscientious medical advisor, who would if possible rescue the overthrown mind of his patient, but to consign him to the insane hospital. He would treat him at home if he could, and thus save the patient and the friends of the patient, the pain, expense and stigma (which latter still unjustly attaches to one bereft of reason), of separation and removal to the asylum; and he would, likewise, if he could, add one more laurel to the brow of victorious medicine.

*One of the practical problems in psychiatry for the general practitioner is, therefore, THE HOME MANAGEMENT OF THE INSANE.*

How can the physician determine when a given case may be safely treated at home? To determine this rightly, the physician must satisfactorily solve many very practical questions:

1. He must ascertain if the patient is homicidal, suicidal, violent, or destructive in any way to the person or property of himself or others, beyond the likelihood of ordinary home vigilance to prevent or circumvent, or is he in eminent danger of becoming so? Is there danger to wife or husband or children? It would not add to the family physician's reputation, as a safe adviser, should a bloody tragedy, or other calamity, follow shortly after advising the retention of such a patient at home, in lieu of promptly committing him to the hospital.

And here the physician, in forming his judgment, must bear in mind how lightly the family are likely to estimate those threats of the patient which often precede their startling execution. Having known the patient, it may be, as always kind and affectionate, they are not prepared to realize the impending radical change of feeling and conduct because of disease towards those whom he has loved and respected.

2. Is the patient so indecent in his habits, conduct or language, or otherwise so regardless of the ordinary proprieties of life, as to render it unfit for him to remain long at home?

3. What antipathies has he formed? Is the presence of the wife or children, or *vice versa*, detrimental to his mental welfare? Can he be treated and cured by medicine alone? How long would it be safe, without incurring the liability of malpractice or violating the golden rule, to attempt to treat him at home, in the midst of those surroundings and causes, real or imaginary, which may have engendered or excited his malady or still contribute to keep it in existence?

4. Was the patient's insanity caused and does it seem aggravated by *any* of the circumstances surrounding him

and are they or are they not removable? What is the pecuniary condition of the patient or his family and the disposition of the latter to incur every needed expenses (and expenses in such cases are often very great) for securing the removal of all causes which really, or in imagination, offend the patient and interfere with his chances for recovery, and what certainty is there of the necessary nursing, attention and watching being given him?

5. Does the patient persistently refuse food, and is his condition, in many or most respects, such as to require those moral agencies, appliances, restraints and that constant surveillance which only great wealth at home, or organized private hospitals, or the lavish munificence of the State or rich corporations, now furnish in the well-ordered hospital for the insane?

Other questions, too, the home physician has often to solve:

How can the patient be approached daily and treated without incurring his antipathy? When ought treatment to be foregone, and the certificate given which is to consign the patient to the insane hospital, etc.? Delay, in most cases, is dangerous. How are the exceptional cases to be determined? On the other hand, a too hasty and unnecessary certificate of insanity may sully the patient's good name and imperil his interests and social standing, for insanity is a grave affliction. To be declared insane and sent to an asylum is to become, in the eye of the law, *non compos mentis* and divested, while the affliction lasts, of all of the political, and many of the personal, rights of the citizen. In law, the adjudged lunatic becomes a child again, and his property, interests and business affairs must be conducted, at least for a time, by some one whom the law regards as "possessed of sound mind and understanding.

Mental disease, too, is still looked upon in many otherwise enlightened communities, as among the disreputable afflictions, little less odious, even, than syphilis or

leprosy, though the superstitious notions which once prevailed respecting the diabolical possession of its victims, have, to a great extent passed away. The insane are no longer burned or drowned as witches, though they are still sometimes unjustly hung as criminals.

To our noble profession, ever the enemy of superstition and ignorance, which was the first to strike the shackles from the poor unfortunate lunatic and recognize him as a friend and afflicted brother, rather than fiend incarnate, belongs also the proud honor of having stayed in numberless instances, the judicial murderer's hand and rescued, in the name of outraged humanity and dispised science, many an innocent creature. Alas, that there should be one in our own ranks to assert that the homicidal insane are fit only to be executed, and one, too, who, not holding with Dr. Burrows, "that madness is one of the curses imposed by the wrath of the Almighty on his people for their sins," but that, "just as a good candle gives good light; a good fuel, good fire; so does a good brain give good mind." One whose views are not *psychosomatic*, but purely *somatic and material*, of mind and its operations should entertain more charitable views towards the unfortunate possessors of defective mental organisms.

Many more questions than those I have here enumerated will present themselves to the general practitioner for cautious solution as he is confronted from time to time in his practice by cases of mental derangement, and to answer them rightly, will often perplex him. He will oftentimes be greatly assisted in their solution by the experimentally acquired knowledge of asylum superintendents and those alienists who have long and specially studied how best to treat and provide for the insane, and by often visiting these excellent institutions, and learning there what can be but slowly learned, if, indeed, it can be fully understood outside of them, that much more than mere medication is essential to the successful treatment of many of these patients; that the facilities for classification and diversion and the separation from home, give

aid to hospital physicians, which the medical man at home cannot have in their treatment.

I have found the superintendents of our asylums for the insane, to be generally intelligent and observant men, well informed in practical psychiatry, courteous to medical visitors, and cheerfully disposed to impart their practically acquired knowledge.

These questions are all practical ones, to be best understood and answered in the same way as we understand variola or varicella, scarlatina or rubeola, phthisis or bronchitis.

Many forms of insanity resemble each other as much as these varieties of what was, until recently, regarded as more properly physical diseases, in their early stages. To arrive at correct conclusions respecting them, how to treat and dispose of them properly, requires the same kind and degree of practical judgment based on experience as gives the best results at the bedside generally.

In the face of the oft reiterated experience of all physicians, from the great Esquirol to those of our own day, who have made themselves thorough masters of the subject, that it is necessary that we should have a familiar personal and experimental acquaintance with the insane in order to comprehend their malady and all concerning them as patients, there still exist some medical men who, without adequate practical observation in psychiatry, and wishing to be regarded as teachers on this subject, boldly discuss the preëminently practical question of insanity in a theoretical way, and on general principles. Thus we often see physicians on the witness stand reasoning out conclusions at variance with the testimony of experience only to be discomfited by more logical and better read attorneys. Yet none would be more ready than they to condemn those who would lightly regard the conclusions drawn from clinical acquaintance with other diseases, on purely theoretical grounds. "Great powers of reason are doubtless requisite," as Vogel has observed, "to understand men destitute of reason," but "in the practice of our art," says Dr. Chas.

West, "things which seem almost as slight as the gossamer film, serve often to decide points of great moment, and the detection of the real nature of disease is often, or even oftener, the result of minute, well-schooled observation, as of acute reasoning or of great mental power."

So in the practice of that eminently practical branch of medicine called psychiatry, we must make ourselves personally familiar with the insane in order to obtain exact notions respecting them. We must live with or often see them in order to appreciate the infinite cares and numberless details which their treatment requires. "In the gestures, movements, looks and general aspect, in his proposals, actions and *shades of conduct which are imperceptible to others*, the physician often derives his first thought respecting the treatment which is suited to each patient committed to his care."\* Thus only, or by often visiting them and intimately studying their malady, can we properly understand and treat them. That physician is, therefore, fortunate who lives near to and has often access to the modern State Hospital for the Insane, with its pleasure walks and drives, and farm and garden, dairy and work-shops, and games and amusements, affording opportunities for timely recreation and diversion, such as the physician may prescribe, with its means of sequestration in moments of great excitement, and number of distinct communities in separate halls, yet under the same roof, affording opportunities for such change of immediate surroundings as the varying mental changes of many cases often require in the progress of their malady.

Unfortunately for the general practitioner, cases of insanity, for various reasons, many of which I have indicated, are now only mainly to be found in the asylums. They are sent there quite indiscriminately, at present, for lack of that clinical experience on the subject, in which the profession at large is deficient, some going that ought not to go, while some are kept away too long that ought to be early sent, so that here, if he should fail at home,

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\*Esquirol—Mental Maladies—American Ed., 1845, p. 72.

as he will often do for lack of these auxiliaries, "the general practitioner of good common sense, with such a knowledge of the human mind and of cerebral physiology as can be obtained by study, and familiarity with all the factors in the patient's history, may succeed." Such a man makes the average asylum physician of recent appointment, taken directly from the ranks of the profession at large.

A skilled medical judgment is not as yet so much the power that moves the insane into our asylums, or keeps them at home, as considerations of expediency or fear of violence, etc. on the part of the friends or relatives.

Many physicians act most conscientiously and wisely when confronted with this disease in a form in which they have never before seen it, by advising prompt commitment to an asylum. But the time must come, and is not far distant, in the progress of our science and art, when such cases as can be safely treated at home will be treated by physicians outside of asylums, having a taste for studying the interesting problems of psychological medicine, and cured there or in the many private-home retreats now in existence, or to be created by private medical enterprise in different parts of the country and well adapted for certain kinds of cases.

"There are few diseases of equal magnitude so susceptible of successful medical treatment in the incipient form as those implicating the normal action of thought." —*Forbes Winslow*. Many of these (by no means all, however,) can be well managed, and some better managed outside of an asylum than in one. The duty now devolving on medical men is to make a wise discrimination, based, not on theoretical notions of this mysterious and protean disease, but on clinical observation and deduction, and certainly not upon the heretical and preposterously illogical idea that non-asylum physicians know, *prima facie*, more about insanity than those, even the same medical men, who subsequently take charge of aggregated bodies of insane.

It would be better for the general practitioner to advise that all his cases be promptly sent to the asylum, than to attempt to manage at home, forms of the malady he does not fully comprehend, especially the acute forms in their curable stage.

This is the course the conscientious physician usually advises, and no class of men are more conscientious, the ministry not excepted, than thoroughbred and educated regular physicians.

But a man may be conscientious and yet err in judgment, he may judge well and wisely advise, and yet be disregarded—so that we see to-day, the same sad spectacle not much abated in its melancholy aspects, described by an eminent English medical writer, twenty-five years ago in these words: "The existence of so vast an amount of incurable insanity within the wards of our national and private asylums, is a fact pregnant with important truth. In the history of these unhappy persons—these lost and ruined minds—we read in many cases, recorded the sad, melancholy and lamentable results of either a total neglect of all efficient curative treatment at a period when it might have arrested the onward advance of the cerebral mischief and maintained reason upon its seat, or of the injudicious and unjustifiable measures of treatment under mistaken notions of the nature and pathology of the disease. In no class of affections is it so imperatively necessary to inculcate the importance of early and prompt treatment as in disorders of the brain affecting the mind."—*Forbes Winslow*.

Physicians are not so much at fault now as they were a quarter of a century ago. They know more and see more of insanity now.

But sympathetic ties of consanguinity clinging to loved ones afflicted with this dire disease, too long keep these patients from the hospital or errors of judgment on the part of the family or those who influence them, false family pride and mistaken notions of the necessity of medical advice and treatment, too long keep away the counsel and the aid of the family physician. And when the



physician is consulted, as doubtless every physician here present has more than once realized, he is confronted with the difficult problem of drawing the line between home treatment, or rather treatment outside of an asylum, and of consigning the patient to the hospital. On the one hand, as already intimated in the beginning of this paper, may be Scilla, on the other Charybdis.

To discuss this subject *in extenso*, would more than exhaust the evening. I may say, however, in brief, that among the cases that are likely to be too soon or needlessly sent to the asylum, are:

1. Puerperal insanity during the first six weeks after labor, in consequence of parturient shock, exhaustive discharges and inadequate nutrition and in passing, let me say, in parenthesis (that I believe the usual *post parturiens* low diet to be largely responsible for many cases of hopeless puerperal insanity. The lying-in woman should be better nourished than the old rule allows).

2. Insanity of Utero Gestation.—This form of insanity might often, by judicious treatment, be kept in abeyance until the crisis is past; but these cases require great watchfulness against violence to the child by the mother during parturition and after, for a while, and often demand the keeping of the new-born babe from the mother's sight until mental restoration takes place.

The asylum, if easily accessible, is often, however, the only place for them, because of the strange antipathies, violent tendencies and incapacity of friends and familiar hands to exert restraint from premature and dangerous physical effort.

3. Insanity of Lactation, which may usually be averted or arrested in its incipency by the prompt weaning of the child, taking it away from the mother and supplementing a wet nurse or the bottle, securing sound sleep every night, quietude during the day, by means of the malt preparations, extract of hops, the best of nutrition, and the usual therapeutic calmative neurotics and hypnotics.

4. General Paralysis of the Insane.—These patients being never cured, and generally as happy in one place as another, and seldom dangerous, may be treated as well at home, or by traveling, as elsewhere, provided they submit without attempting violence or intolerable annoyance to the control of their affairs by others, and these patients often have large property interests, the incessant effort to accumulate, which has culminated in their insanity.

5. Acute Psychic Disturbance, consequent upon hyperæmia, while the patient is still, though ever so vaguely, conscious that something is wrong with him and will receive treatment.

These cases require, however, much watchfulness and skill in management, if they have any delusions of suspicion that may lead to homicide or suicide. The advice that is to keep them out of an asylum should be cautiously given and based on ample means, and disposition on the part of friends to keep the patient under constant surveillance.

6. Cases of *mania a potu* or delirium tremens, having their foundation in acute nerve exhaustion, which may be soon restored by judicious treatment. These cases should always be treated until it is satisfactorily ascertained that the cerebral debility and the alcoholic poisoning are chronic, before signing the certificate that commits to the asylum.

7. Senile dementia. These cases being generally much debilitated and certain not to recover, should, if possible, be permitted to die at home.

8. Insanity with recent hemiplegia or paraplegia, until recovery from the immediate effects of the stroke have passed.

9. Insanity connected with far advanced or metastatic tuberculosis, unless violent and destructive, and such as appear sometimes in the course of the examthemeta, zymotic diseases or acute affections, which appear to threaten an early, fatal termination. For obvious reasons, such patients had better be kept at home.

10. *a*—Mild cases of melancholia, without fully developed delusions or suicidal propensities, where the patient could afford the expense of a medical attendant away from his immediate home. But these cases are often the most uncertain and treacherous the physician encounters. It is out of them that the annual harvest of suicides is largely made. Ceaseless vigilance should accompany the attempt to treat them at home.

*b*—Melancholia of whatever kind, dependent on reflex causes, like hemorrhoids or fistula, should not be sent away before the benefit of an operation is first tried, if it be possible to perform it. Hepatic derangement and morbid states of the generative apparatus should be always first looked for and remedied, if found.

In using the term home-treatment, we do not mean to imply, in every instance, the patient's own household, but the vicinity in which he or she resides. The temporary removal of the patient to the home of his or her physician, or to the house of some neighbor, who might be congenial to and exert a salutary influence on the patient is very often one of the concomitant necessities of any attempt at home-treatment, the chief aim being to allay the patient's developing fears, antipathies and suspicions, and secure willing acquiescence in such medication as may be essential to restore mental tranquility and subdue the growing excitement. Failing in this, there is no resource but the hospital, the final resort in the vast majority of instances, and in no case of acute insanity should fruitless home efforts be long enough continued to imperil the chances of recovery in the hospital. In the majority of cases, from a month to six weeks of trial is enough to ascertain if restoration at home is probable, and in no instance should a patient *who* even steadily grows worse from day to-day, sleeping little, if any, and eating little or none at all, be kept at home one-half or one-third of this time. His surroundings are fuel to a consuming flame, and the sooner he is removed from them the better.

Art. VI.—Locura Paralytica (*Paralytic Insanity*). Delirio Mixto (*Mixed Delirium*).\*

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By DR. MELENDEZ.

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Translated by JOSEPH WORKMAN, M. D., Toronto, Canada.

THE *Revista Medico-Quirurgica* of Buenos Aires, of May the 8th, presents under the above title an interesting case described by *Dr. Melendez*, physician of the *Hospicio de las Mercedes*, who seems to have been rather undecided as to its appropriate designation. It is, however, our belief that it presents the leading characteristics of a form of mental alienation with which the physicians of European and American insane asylums are but too familiar, and though one or two of the psychological manifestations may be of unusual occurrence, we cannot see that these should demand the introduction of a new nosological term; neither do we think that the one suggested by *Dr. Melendez*—*megomania*—possesses any distinctive merit, for in no small proportion of all cases of mania, delirious extravagances of a highly accentuated order are to be met with. That in Roman Catholic countries, in which pictorial representations of Scriptural subjects, and particularly of the sufferings and death of the Savior, are so largely employed as a means of awaking and stimulating emotional piety, the delusions of the insane should sometimes be strongly tinged with a corresponding mental strain, we regard as a very natural phenomenon. Even in Protestant communities, similar delusions are by no means unknown. Few superintendents of large asylums have not made acquaintance with imaginary Christs, Virgin Maries, Popes, Emperors and

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\*Translation and comments by Joseph Workman, M. D., retired Superintendent of the Toronto, Can., Lunatic Asylum; Ex-President Toronto Medical Society, etc.

great Generals, and certainly the personation of death has not been one of the unknown occurrences in their experience. No delusion need be regarded as extraordinary among the subjects of *General Paresis*; and to this class, without any hesitation, we should assign the case described so vividly, and we doubt not, so truthfully by *Dr. Melendez*.

The following is a translation of the details of the case:

CASE.—N. N., a native of the Empire of Brazil, aged 31, married, of nervous temperament, a merchant of good constitution, entered the *Hospicio de las Mercedes* on the 23d of April, 1879, under certificate by Dr. Blancas. According to the statements of his relatives, he had enjoyed good health and a brilliant commercial position until, in consequence of adverse business affairs, he became unbalanced and abandoned himself to alcoholic indulgences, which resulted in the mental disorder under which he now suffers. As far as we have learned, no family antecedents authorize the belief in hereditary predisposition. He daily lost his cheerful character, and ended by abhorring his wife and children whom he had before idolized. Everything disgusted him, and the most trivial matters became to him serious disgusts. He frequently left home to sojourn with friends, towards whom he exhibited profuse generosity, as if he possessed a large fortune, inherited from a near relative. He had not passed a long time in exhibiting his ideas of grandeur, when he abandoned the vicinity of his family and went into another part, where he committed some excesses and acts of violence, in consequence of which it became necessary that one of his friends should go in quest of him, and, having found him, it was proper to have recourse to coercive measures to conduct him to *Salto Oriental*, from which he was brought to this institution.

STATE OF THE PATIENT ON ENTRANCE INTO THE HOSPICE.

—N. N. was attired in a Kersey dress, carrying on one of the lapels a sort of a crown, which he had himself made out of a piece of tin, and placed on the part indicated. His physiognomy presented nothing remarkable, excepting some alteration in color, which was darker than customary, and his hair was neglected and tangled. Being asked as to his name, he persisted in styling himself N. N., Duke of Braganza, and the possessor of the riches of the universe.

He passed the first days tranquilly, until his impatience, pride and desire for liberty led to a quarrel with the attendants, similar to those which had taken place at home before his entrance here. He every day demanded large sums of money for the purchase of exquisite viands from the best hotels and confectionaries of the city; when reply was made that we did not possess what he demanded, he called for paper, on which to write telegrams to the principal bankers of Brazil and Europe, with whom he said he had fabulous sums in deposit. He did not talk merely of hundreds and thousands, but of millions and trillions of sterling money. When paper was given to him, he wrote very tardily, and if by chance he made a mistake, he did not cross it out with the pen, but smudged it with the finger, as if he was writing on a slate. The writing was unintelligible and showed great incoherence of ideas, but always with his characteristic grandeur. When we gave him paper he never concluded any writing; he would begin a page, and before filling it, he would turn over to another and begin to treat of a new subject, which had no relation to what preceded. The form of his writing was notably altered and quite irregular, the lines were not parallel, but descending and ascending in curves more or less pronounced, and disagreeable to the eye. The tremor of the hand caused him to describe curved lines of various degrees. At the end of a month he began to tear his clothes, alleging that he had others more elegant and rich to replace them.

PROGRESS OF THE DISEASE.—The patient continued as above for two months, when he became sad and his delirium took a religious form; he was frequently found kneeling, with his hands joined on the palms, and in the attitude of praying. The form of his delirium became daily more accentuated until he finally refused all nourishment. His emaciation seemed to abolish all hope, and he stretched himself out on the floor; it then became necessary to place him in one of the infirmaries where he might receive the care which his condition required. Having

been placed in bed, he persisted in his ideas and ended by believing himself the redeemer of the world. In consequence of his persistent refusal of food, alimentation was very difficult. He finally declared himself the Son of God, and asserted that he must die on the cross for the redemption of mankind from the captivity of satan. One day we were amused by seeing him simulating dying on the cross, and presenting a figure that might attract the attention of the most fastidious observer. Lying on his bed in utter muteness, he stretched his lower extremities in such a manner that they appeared held by a very strong exterior force. He extended the arms in a similar way, so that it was impossible to bend them by any force used by us for that purpose. Once, while in this attitude, he opened his eyes so widely that they appeared about to start from their orbits. He opened his mouth similarly and thrust out his tongue with great force, uttering a peculiar cry as if a noose was strangling his neck.

He remained in this state for some minutes, when his cries ceased and he passed into apparent lifelessness; his respirations became imperceptible and his face was bathed in sweat; finally he settled into apparent death, with complete relaxation of all his members. New attacks took place at intervals of some hours, and whilst they lasted he continued perfectly indifferent and estranged from all surrounding occurrences. While he was in this state, in order to test the peripheral sensibility, we pricked the skin with a needle and sometimes excited convulsive action, but other times not. When this experiment was made at the times in which he simulated agony, convulsions occurred at each pricking, he gave a loud cry and thrust out his tongue with great force as if to indicate that he believed himself wounded by some weapon. He persisted for some days in simulating the death of Christ, but at length, through the influence of bromide of potassium and injections of the muriate of morphia, he became tranquil. After this he passed into a

melancholy and taciturn state, and was observed to weep frequently, without indicating the cause of his suffering, which we failed to discover, though we interrogated him often in this relation. His moral suffering being now so far calmed, he began gradually to take food and his emaciation decreased. After a time he left his bed, and commenced to walk in the open air; still, however, preserving his melancholy cast. At length he regained strength and some degree of cheerfulness, and we judged it best to place him among the boarders of his own class.

THE PRESENT CONDITION OF THE PATIENT.—At the present time N. N. exhibits a phase quite distinct from that observed in the outset. We now see in his case all the most notable symptoms of paralytic insanity, the progress of which we believe cannot be retarded, if we may judge from his general condition, and the fact that no benefit has resulted from the course of medication pursued. He is greatly emaciated; his aspect is of an ashy hue; the hair is frizzled and lustreless, as are also the beard and whiskers; and his general appearance indicates the disease under which he labors.

The pupils are unequal, that of the right eye being the larger. The sense of smell is torpid to such a degree that he does not distinguish the odors of the most familiar substance—as garlic or onions. The taste is similarly affected, and the sensibility of the skin is much diminished. The lips and superior members present marked tremulousness, especially when he talks fast, or is agitated, or when he uses the hand to take food, or to light his cigar. The muscular force is diminished, as is readily shown when he is made to raise heavy things, or to squeeze our hands. He presents no change of gait, with exception of the tardiness observed when he takes his walks, and the absence of that air of satisfaction which at the first distinguished him. His appetite is good, or indeed it is bulimic; he eats greedily and abundantly, without manifesting predilection for anything, thus showing that all are equally agreeable. His digestion is perfect, and there is no diffi-



culty in his deglutition. His bowels are persistently costive, and exhibition of purgatives is necessary. His urine is voided involuntarily; he does not seek for the chamber vessel, nor go, as at the beginning, to the latrine, but passes both urine and fæces wherever he chances to be seated, or in his bed.

His delirium always ranges in grandeur, he persists in the belief that he is a millionaire, and general of the armies of the Empire of Brazil. He becomes irritated from time to time, and threatens us with powerful batteries of cannons, bombardments and colossal squadrons. He rises suddenly with shut fists and trembling limbs, grinds his teeth, and utters cries and tremendous threats. He resists the exhibition of medicines and the injection of morphia. At the first he called both poisons, and he believes that by means of the injections we are trying to empoison his noble flesh. When he sees the operator coming with the syringe of Bravat, he absconds, or becomes agitated, and cries out, "*here comes the hangman bearing the torment with which to lacerate and poison my flesh.*" He sleeps little, and whilst awake, he continues in his delirium in the usual form, and sometimes cries out, destroying the quietude of his associates.

GENERAL CONSIDERATIONS.—This patient, from his present state and that observed at the outset, presents to me some interest. In the first days, symptoms of megalomania were noted without any of those somatic phenomena which accompany paralytic insanity of free progress in its invasion. There was no tremor or vermicular twitching of the lips or any alteration of the speech; neither was there alteration of smelling, inequality of the pupils, change in the gait, or more or less pronounced fever; and from these facts I was led to regard the case as a *megalomania*, and not one of paralytic insanity with the delirium of grandeur (general paresis).

The mixture of delirium affecting a triple form is not common; at least, I confess, that I have not had occasion of observing any similar case in a period of four years,

among more than forty individuals of the same class, and with a delirium ambitious, melancholic or hypochondrical.

Another particular deserving of note is the period at which the religious delirium was presented, during which he believed himself to be the redeemer of the universe, and represented that most interesting spectacle of dying on the cross, a process which he appeared to struggle to characterize by the most vivid colors and agonized gesticulations.

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We omit the treatment adopted by Dr. Melendez, regarding it quite as futile as he has acknowledged it to have been. Not many readers of the ALIENIST AND NEUROLOGIST, we imagine, who have had large asylum experience, will hesitate to assign the case to its proper class. *Paresis*, just as other forms of insanity, presents no stereotyped uniformity, either in its somatic or its psychologic phenomena, and we cannot see either in the positive or the negative divergent symptoms noted by Dr. Melendez, sufficient grounds for excluding the case of N. N. at any period, from the class of the paretics. We attach no importance whatever to the *triple form* of delirium which he seems to have regarded as of diagnostic value, for nothing can be held as extraordinary or improbable in the course of parietic delirium. It is in its final stage that we most clearly identify the malady.

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## Art. VII.—The Latent Zone and Non-Motor Areas of the Cerebral Cortex.\*

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By DR. BOYER

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Translated by E. M. NELSON, M. D., St. Louis.

IN an inaugural thesis before the Faculty of Paris, Dr. Boyer communicated, last year, some "Clinical Studies upon Cortical Lesions of the Cerebral Hemispheres," which led him to the conclusion that there are non-motor by the side of the motor areas of the *cortex cerebri*. This communication is interesting in connection with the direct clinical confirmations of the doctrine of localized psycho-motor centers in certain definite portions of the convolutions of the cerebrum. Cerebral lesions, he says, do not always cause motor symptoms; these depend upon the points where the lesions are situated. He thinks we can circumscribe the area of the non-motor points, and, by the difference, demonstrate the existence and seat of the motor area upon the external surface and in the middle of the cerebral hemisphere. A case will be the less accompanied by motor symptoms as it is seated farther from the fissure of Rolando; so all the points of the lower surface of the hemispheres of the brain can be affected by latent lesions (except where the function of the vessels at the base are interfered with).

By their relation with the vascular parts, by experimental determination as well as clinical observation, it would appear already demonstrated that the motor centers occupy the circumference of the fissure of Rolando, and the origin of the fissure of Sylvius.

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\*From the *Gazette des Hopiteaux*, Jan., 1880.

The most certain and the earliest localization, that of aphasia, consists in three lesions: Lesion of the surface of the third left frontal convolution (certain); lesion of the island of Reil, on the left (under investigation); lesion of the white pediculo-frontal bands of the third frontal convolution on the left (certain).

The area of the center of language corresponds to the posterior third of the third left frontal convolution, all around the ascending branch of the fissure of Rolando.

We can seek out the motor centers by the aid of the facts of partial epilepsy. It never takes place in lesions of the lower surface of the brain.

The study of cases of monoplegia is alone capable of permitting to fix, definitely, the exact seat of a center, and its point of maximum physiological function.

The study of cases of associated monoplegia will indicate the extension of a center, or that this action of one motor center upon another has occurred by a superposition of the edges of two contiguous centers, or that the white bands derived from two neighboring centers underwent decussation in the centrum ovale of the hemisphere.

The center for the arm occupies the space which separates the center for the face from that for the leg. Its extent is considerable, as we often find monoplegia of the arm associated with other monoplegias, especially that of the leg, which constitutes then incomplete hemiplegia, without facial paralysis.

We can fix the minimum center in the following points: Language: third left frontal in its posterior third. Face: the base of the frontal and of the ascending parietal. Arm: the middle third of the frontal and of the ascending parietal. Leg: the upper third of the ascending parietal.

BRACHIAL MONOPLEGIAS.—*M. Gaston Decaisne* read a thesis on "Paralyses of Cortical Origin of the Upper Extremity (Brachial Monoplegias.\*)" We find in this, aside from a confirmation of many of the propositions which precede, some new and interesting diagnostic indications.

In general there is no apoplectic stroke properly speaking

Most frequently the patient experiences a vertigo, he staggers, even falls, still maintaining a more or less distinct idea of what is passing about him. Often there exists, at the same time, a passing embarrassment of speech, due probably to a momentary congestion of the convolutions of Broca. It is remarkable that it is most frequently the leg which first attracts the attention of the patient. He feels himself failing, and generally perceives the loss of motor power of the arm, only after a time, relatively quite long. Certain individuals, taken at night, find only on the next day that they have no power to move their fingers.

Gradually the general phenomena disappear. Language, when it has been affected, recovers its functions, and if the motor center of the arm alone has been really involved, we can follow the evolution of the brachial monoplegia in all its details and all its phases.

That which strikes every one at first in this kind of paralysis is the conservation of the sensibility. When that is affected, it is generally only in the first moments, and it is most frequently only blunted. When it is more seriously compromised, which occurs exceptionally, it depends solely upon a greater extent of the lesions. In most of the cases, when the first shock has been dissipated, the patient perceives the least prick and the lightest touch. Sensibility to cold and heat is equally intact.

The temperature of the limb undergoes no modification, at least in the immense majority of subjects, contrary to that which takes place for central lesions.

Generally these paralyzes are incomplete, more properly pareses. Sometimes having been general in the beginning, certain groups recover, while the condition persists for some time in other muscles. Inversely it may occupy certain muscles at first and extend to others. These paralyzes are generally transitory. Sometimes the face participates in the paralysis, but only temporarily. and in its lower half alone.

The prognoses of cortical paralyses of the upper extremity, depend on the one hand, upon the extent of the lesion; on the other, upon the initial affection which has been the first cause of the cerebral disorders.

There have been given, as principal characteristics of cortical paralyses and, consequently, as diagnostic signs, the limitation and circumscription of the paralysis to one muscular group, as also the fact of being incomplete and transitory. Although this is so in the generality of cases, M. Decaisne is of the opinion that none of these circumstances can be invoked as absolutely characteristic, the contrary being present, exceptionally it is true, for each of them. A more certain sign is the preservation of the sensibility.

Finally, the brachial monoplegias are not generally accompanied by modifications of the temperature of the limb, nor by trophic troubles. It is evident that when these different characters are found united, the diagnosis can be made without any hesitation.

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Art. VIII.—Hemiopia.—Mechanism of its  
Causation on the Theory of TOTAL  
Decussation of the Optic Nerve Fibres  
in the Optic Tracts at the Chiasma,  
(Optic Commissure).

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By WILLIAM DICKINSON, M. D., St. Louis.

IN the discussion of this subject, which, during the last score of years especially, has engaged the talent of a large number of investigators in this country and in Europe, I beg to premise that I assert no claim to original research, but have simply availed myself of the achievement of others; and, in as brief manner as is consistent with the importance which I attach to the subject, I shall present the results to which I have arrived, from a faithful perusal of the literature which they have furnished, and which has been accessible to me.

For the better elucidation of my subject, I briefly refer to the anatomy of the optic apparatus. The term "*optic nerves*" I shall employ exclusively to designate that portion of this apparatus extending from the optic commissure anteriorly to the globe; while that of the "*optic tract*" embraces all that portion extending from the commissure, posteriorly, to its multiple sources of origin in different parts of the brain. Systematic works on "*Anatomy*" teach that each optic *tract* derives its origin from the Corpora Geniculata, from the posterior and inferior aspect of the Optic Thalamus, and from the optic thalamus itself, and from the Corpora Quadrigemina. From these points of origin it proceeds forward and joins with its fellow in front of the Tuber Cinereum, to form the optic commissure; that, within the commissure, the *central* fibres of each tract cross each other to pass to

the opposite eye; while the *outer* fibres of each continue their course uninterruptedly to the eye of the *corresponding* side. This mode of crossing, of a portion of the optic nerve fibres, is termed *partial* or semi-decussation. According to this doctrine, the *nasal* half of each retina is supplied by the optic tract of the *opposite* side; while the temporal half receives *its* contingent from the tract of the *same* side. Fibres continued across the anterior border of the chiasma are described, connecting the *optic nerves* of the two sides, having no relation with the optic tracts. In respect to these, Gudden, of acknowledged high authority, states: "they cannot be demonstrated." Fibres corresponding to these are also described upon the inner margin of each optic tract, continued across from one to the other side of the brain, having no connection with the optic nerves. The same anatomist states: "these do exist, but they have no physiological relation to the nerves; on the contrary, they are wholly independent of them."

Thus divested of all collateral fibres, we have remaining, as the constituents of the optic commissure, fibres which *cross* each other, and fibres which do not cross each other; both together subsequently in their course, forming the optic nerve of each eye. Now, is this description true, or is it not? Does a *part* only of the fibres of each optic tract cross each other in the chiasma, or do *all* the fibres thus cross each other? If *all* the fibres cross each other, then the optic *nerve* proceeding to each eye is the continuation through the chiasma solely of the optic nerve fibres of the optic *tract* of the *other* side; if they do not, then the former description is correct, viz: that each optic nerve is composed of both the crossed fibres and the lateral fibres. Our inquiry is, in other words: Is decussation *total* or is it *partial*? I shall endeavor to recite arguments in proof that *all* the optic nerve fibres in the optic tract *do* decussate in the chiasma, and thus disprove the doctrine of semi-decussation taught in all our text-books.



We shall assume as granted the existence of the law of isolated conduction in reference to the fibres of the optic *tracts* and optic *nerves*, *i. e.*, that the nerve fibrils are multiple, and constitute an essential element in the mechanism of vision; that they have a real, continuous course from localities far behind those *usually* assigned, even from the cortex cerebri to their termination in the retina, or to be more exact, in the ganglion cell-layer of the retina. Morphologically, therefore, the optic nerve may be regarded as a part of the cortex cerebri, and the retina itself as an outpost of the brain, since a portion of its fibres attach themselves to a fasciculus of the *corona radiata*, which has its origin in the cortex.

The chiasma or optic commissure consists of the aggregate plexiform interlacement of the *optic nerve fibres* placed side by side, destitute of a fibrous sheath, the whole being covered in by the pia-mater. It is situated beneath the corpus callosum, with which it is in connection through the Lamina Cinerea, and through the medium of the former, it is in connection with the anterior, middle and part of the posterior lobes of the brain.

The texture of the several parts of which it is composed is soft, succulent and, therefore, readily compressible. It rests upon the olivary process of the sphenoid bone, a hard, unyielding body presenting, conspicuously, an elevation in reference to its surroundings. The chiasma thus situated, is to some degree *normally* pressed upon by the corpus callosum and also by the parts which *it* in turn supports above. It is bounded in front by the Lamina Cinerea, which forms the anterior part of the inferior boundary of the third ventricle; at either lateral angle, by the gray matter of the substantia perforata anterior, corresponding to the under-surface of the corpus striatum; behind by the Tubera Cinerea, which forms a part of the floor of the third ventricle; *here* are also situated the Pituitary Bodies, the posterior lobes of which contain a cavity; which, through the medium of the Infundibulum, communicates with the third ventricle; also, the Corpora

Albicantia and the Substantia Perforata posterior, which forms the posterior part of the floor of the third ventricle, and corresponds to the under surface of the Optic Thalami.

The anterior perforated space is perforated by numerous orifices for the transmission of small vessels to the Corpus Striatum. These orifices, through which they pass, are in size three times as large as the vessels themselves, and therefore afford but slight support to them. These vessels are derived from the anterior and middle cerebral arteries of the "Circle of Willis." The posterior perforated space is perforated in like manner for the passage of blood vessels to the Optic Thalami; these are derived from the posterior cerebral arteries.

The relatively large size of the Chiasma, its peculiar and exceptional position render it eminently obnoxious to variable degrees of pressure in consequence of changed conditions of the numerous and diverse cerebral factors by which it is surrounded. In addition, "Michel has devoted much attention to the upper surface of the commissure, and its relation to a layer of gray matter over it containing a recessus or cavity communicating with the third ventricle in the middle line and the lateral ventricle at the sides, in such a way that fluid injected into one lateral ventricle would distend this cavity, and so press on the commissure. The communication of this recessus with the third ventricle is of great importance pathologically, as in this way the front, lateral or posterior parts of the commissure may be pressed on."

I am the more desirous of giving special emphasis to the form and situation of this body and of its relations to the several parts immediately adjacent, since, on the theory of *total* decussation, *upon its four angles and their vicinity* must be impressed the proximate causes of all hemiopic symptoms. The region within which these causes are to be found, is, therefore, very limited; while on the theory of *semi-decussation*, the causes, being the *same*, may be sought at any point in the course of the optic tract, between

the Optic Chiasm and its origin in the cerebral ganglia, and in its more remote points of origin in the gray substance of the hemispheres.

*Pressure*, either directly or in its results, inducing nutritional changes, as will be shown, at length, in the sequel is the *occasion*, probably, of all forms of hemiopia from intra-cranial causes, whatever may be the nature of the cause by which the pressure is exerted. If this be applied at the anterior angle of the Chiasma, temporal hemiopia will result; the central portions only of the entire ordinary visual field being illuminated; for the optic nerve fibres supplying the nasal halves of the two retinae are compressed, and their sensibility destroyed, or conductivity interfered with.

If it be applied at the right lateral angle, the right halves of each retina will be incapacitated, and, consequently, vision in the right visual fields alone is possible; if, on the other hand, it be applied at the left lateral angle, vision in the left visual fields alone remains. Again, if the pressure be applied at the posterior angle, the optic nerve fibres destined to the *outer* halves of both retinae being compressed, their faculty power of conduction destroyed, and these portions of the retinae incapacitated, vision in the outer fields alone remain, constituting nasal hemiopia; a form of hemiopia inexplicable on anatomical grounds on the theory of semi-decussation.

Now, this is a simple and very intelligible presentation of the entire subject of the mechanism of causation, and an unequivocal guide to the solution of all the forms of hemiopia.

The array of authority in support of semi-decussation, the theory now generally prevalent is truly formidable, viz.: *Newton, Vater, Wollaston, Mueller, Gracfe, Jackson, Hirschberg, Knapp, Wilson, Gudden, Reich, Schoen, Monk* and others; but names, however distinguished, avail but little, if their doctrines, subjected to the crucial test of later discoveries, are found to have been predicated upon the sandy foundation of mere hypothesis. But yet, to

illustrate the doctrine of total decussation, we are able to record a galaxy of worthy names, viz.: *Biesiadecki, Mandelstamm, Michel, Broten-Sequard, Pawlowsky, Cohn, Illing, Bastian* and others, whose names, though of less repute in the republic of medical science, will ever receive the merited honor of bringing to naught the hypothesis and teachings of their predecessors; for *their* doctrines are founded upon the everlasting rock of anatomical demonstration.

I shall now offer reasons why the theory of semi-decussation cannot be sustained; and

First. It is founded upon an hypothesis.—I have not been able to satisfy myself as to the opinions and teachings of the *earlier* anatomists respecting the subject of decussation, but upon consulting the writings of Hieronymus Fabricius, a distinguished anatomist of the seventeenth century, I find this statement, viz: "The optic tracts approach each other and *appear* to decussate at the chiasma, but they do *not* thus decussate; the right optic tract after this approximation leaves its fellow, and becomes the optic nerve and proceeds to the right eye, and left optic tract in like manner to the left eye." It was, therefore, his opinion that no decussation whatever took place, each eye being supplied exclusively by optic nerve fibres from its own side. This declaration, we know, is widely at variance with the observations of later anatomists. Vesalius, however, who flourished a century earlier, records an anomalous case, in which "there was *no* junction of the optic nerves, and the sight was never double," nor were other symptoms mentioned by him; and an instance of congenital absence of the optic commissure is now preserved in the museum of Westminster Hospital, London. These are certainly very exceptional cases.

Whatever may have been the accepted doctrine prior to his time, Sir Isaac Newton was the first, who, in the year 1704, from physiological reasons, as he conceived, advanced the possibility of a partial decussation of the optic nerve fibres to account for the phenomena of

Hemiopia. It was with him but an *hypothesis*, a mere conjecture. He *himself* may not have been convinced of its reality, but on this assumption, certain observed phenomena obtained a more ready solution than on any other hitherto suggested. Perchance he only *designed* this as a mere hypothesis, after the manner of astronomers, who in their effort to account for perturbations observed in the revolutions of certain planets, assume the existence of an intermediate planet hitherto undiscovered, and then pursuing a course of reasoning and calculation upon this assumption, determine whether the hypothetic planet, if it actually did exist, is capable of producing the phenomena observed. It was thus "Bruno conjectured the fundamental fact of the nebular origin of the heavenly spheres; Kant reasoned out its foundation idea, and LaPlace developed it."

Twenty years after the promulgation of this hypothesis, three cases of Hemiopia by *Vater*, in a dissertation, were explained on the theory of semi-decussation, thus lending it additional confirmation. A century later the same theory was adopted by Dr. Wollaston, of London, to account for hemiopic symptoms, of which he thrice was the subject.

Second. The theory of semi-decussation is disproved by physiological experiment.—It has been ascertained that section of *one* optic tract in living animals gives rise, *not* to bilateral hemiopia, as would result if decussation was partial, but to amaurosis of *one* eye *only*, and *that* of the opposite side; also that section longitudinally through the chiasma in the median line, causes *complete* amaurosis; which is in harmony with the doctrine of total decussation, since all the fibres of both tracts would thus be divided: while on the theory of semi-decussation temporal hemiopia would result. Flourens ascertained that destruction of either Corpus Quadrigeminum was followed by loss of vision in the eye of the *opposite* side. If both these are destroyed, blindness, double and complete, is the result. In like manner it has been ascertained that destruction of one angular gyrus, where Ferrier

located the origin of the optic nerve, produces temporary blindness in the opposite eye; and when the angular gyri of both hemispheres are destroyed, blindness of both eyes is produced and that permanent.

Third. The theory of semi-decussation is disproved by clinical experience.—In cases of uniocular neuritis, from a cerebral tumor, recorded by Dr. H. Jackson, the neuritis was on the side *opposite* to that of the tumor. Wundach reports a case in which the *left* eye had, for a long time, been blind from detachment of the retina; he found, on examination after death, atrophy of the *left* optic nerve, and also of the *right* optic tract. Beer relates a case of disease of the substance of the *left* hemisphere which had resulted in blindness of the *right* eye only, from intra-cranial disease of the left side. It was found to be occasioned from the effects of a vascular cyst containing two ounces of fluid in the substance of the posterior part of the *left* hemisphere. Magendie also records a case in which the *right* eye having been for a long time lost, the optic nerve was atrophied throughout its entire length to the optic commissure, and also the *left* optic tract to its visible source of origin, that condition usually found consequent upon loss of function. Irrefragible evidence of our position is furnished by the case of Professor De Morgan, a distinguished mathematician, examined by Dr. Bastian, and by him reported: "The patient was blind in the *right* eye almost from birth; the corresponding optic nerve, upon section, was found to be atrophied, and, likewise, the *left* optic tract; while the optic tract of the *same* side presented a healthy appearance." And, akin to this case, and rendering accumulative proof, is that of a dog examined by Michel. This animal had been affected with congenital malformation of the eye of the right side; the *right* optic nerve and the *left* optic tract were found, on section, to be atrophied. In all these cases, on the theory of semi-decussation, one optic tract alone having suffered lesion, there should have resulted bilateral hemiopia, since each tract supplies corresponding portions of both retinae.

Fourth. The theory of semi-decussation is disproved by the teachings of *comparative* anatomy.—It is admitted even by the advocates of partial decussation, that in birds, the bat, in the osseous fishes—the cod, halibut and sturgeon—in rabbits and dogs, the decussation is *total*. The same condition has been found in all vertebrates in which decussation has been *demonstrated*; and we are authorized to assert, on the authority of Biesiadecki, that the same obtains in *all* vertebrates, including man, one scheme of conformation everywhere prevailing. And why should there be found an exception in man? Is it not possible? Some one may inquire. Yes, it is *possible*, and nature is competent to inaugurate this anomaly, but she is not fickle or capricious; nor does she delight in departures from certain well-defined models in creation, *now* adopting one scheme and now another. She works according to simple, general and inflexible laws, and, when uninfluenced by extraneous causes, produces uniformity of results. The autocracy of general law everywhere prevails, and wherever anomalies or monstrosities occur, they are due to some mechanical impediments or interference in the process of development, which were insuperable.

Fifth. The theory of semi-decussation of the optic nerve fibres in man is disproved, finally, by the anatomy of the optic commissure itself.—This affords the coronal and *ne plus ultra* testimony, and must forever disarm argument, dispel doubt and silence conjecture. Hypothesis on this subject, has dominated the medical world for a century and a-half. But hypothesis and theories thereon constructed, that will not triumphantly endure the ordeal of demonstration must fall, and speculative physiology must ever yield to the revelations of anatomy. Biesiadecki appears! And he alone enjoys the honor of first grasping this fallacy and given to *it* a successful refutation, though so long maintained and embalmed in all works on descriptive anatomy. *He* was so fortunate as to be able to *pursue every single fibre of one*

*optic tract through the chiasma to the optic nerve of the opposite side*, by the separation of the fibres of the chiasma, and thus succeeded in demonstrating total decussation. Michel and Mandelstamm, *simultaneously* and *independently* of each other, arrived at the same result. They never found the fibres of one tract *bending round* to the nerve of its own side, but they all pass to the optic nerve of the opposite side. Michel states: "the optic commissure in man is made up of the fibres of *both* nerves arranged in a kind of *basket-work*, whose meshes form more or less irregular squares." He thus renders unequivocal corroboration to the anatomical demonstration of Biesiadecki. It was venial in the dim twilight of medical science of Newton's time, that this hypothesis should have been proposed and taught, awaiting the advent of better and truer things; but now, in the full blaze of its meridian splendor, hypothesis gracefully yields to demonstration; anatomy, confirming the substitution, imparts fitting correction to the printed page, and time, the great arbiter of all things, transmits the record of the present to the judgment, revision and perfection of the future.

[Other aspects of this subject will occupy our attention in the next number.]

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## Art. IX.—The Psychological Aspect of Alcoholism.\*

BY IRA RUSSELL, M. D.,

MEMBER OF THE ASSOCIATION OF MEDICAL SUPERINTENDENTS OF AMERICAN HOSPITALS FOR THE INSANE; OF THE NEW ENGLAND PSYCHOLOGICAL SOCIETY; OF THE MASS MEDICO-LEGAL SOCIETY, Etc., Etc.

THE influence of alcoholic stimulants upon the human system, in health and disease, is a matter of deep interest to the physiologist, psychologist, jurist and philanthropist. The effects are seen in all the relations of civilized life—moral, religious and governmental. Never before has it attracted so much attention as at the present time. Men of the highest scientific attainments in this country and in Europe are engaged in investigating the dietetic, therapeutic and toxic properties of the various forms of alcoholic stimulants. By the assignment of your committee, I am restricted to the psychological aspect of alcoholism, while the gentleman who is to follow me will present its pathological phases. It must be evident to everyone, that it is difficult to separate entirely the psychology and pathology of inebriety. But little can be said upon the influence of alcohol upon the mind, when taken in moderation or in small quantities, without producing any physiological effect save a slight exhilaration of the mental faculties; it is rather when taken in excess that we are to consider the subject; in short, in what way, and to what extent are the mental faculties affected by inebriety? For convenience, I will divide inebriates into four classes: The *occasional*, the *habitual*, the *confirmed*, the *dipsomaniac*.

\*Read before the Mass Medico-Legal Society, June 8th, 1880.

The occasional inebriate is one who, through social enjoyment or excitement on some holiday, becomes intoxicated, due perhaps to the solicitations of jovial companions; such an event is followed by mental depression, a sense of shame and feelings of disgrace.

The habitual inebriate is one who makes constant use of stimulants, is not often fully intoxicated but thoroughly saturated with liquor. The influence upon the mind of such a course of life may not, at first view, be very apparent, but upon a closer investigation, it will be found that there is a general deterioration of all the mental faculties.

The confirmed inebriate is one who, uninfluenced by moral considerations and caring not for the disgrace and loss of character that follows intoxication, becomes drunken whenever an opportunity occurs. In such a person, the sense of moral obligation is blunted; the lowest and most brutal passions are unrestrained, and the love of home, wife and children is destroyed. We have among the insane a class called insane criminals, so it is with inebriate—there is a class of criminal inebriates, and they are found mostly among the confirmed drunkards.

The dipsomaniac is one who goes on sprees occasionally, craving for alcoholic stimulants, occurring paroxysmally, with a constant liability to periodical exacerbation. During the intervals of sobriety he has no desire for stimulants, and will associate with those who are drinking without partaking, and then, without any apparent cause, will go on a debauch lasting from a few days to several weeks until he becomes completely exhausted, and with a paroxysm of remorse and repentance abstains for a season. But these periods of sobriety become shorter and shorter, and he finally becomes a worthless, demented being, a disgrace to his friends and a curse to society. The dipsomaniac is found among the most refined and cultivated, embracing both men and women. During the intervals of abstinence, the dipsomaniac may be punctilious in the observance of the proprieties of life; the kindest of

husbands or wives, and the most devoted and affectionate of parents; but when the paroxysm seizes him he becomes crafty, cunning and the most consummate of liars, resorting to any stratagem or subterfuge to procure stimulants. Men of this class, of refined taste and cultivated manners, will hide away among the lowest and vilest to gratify their insane thirst for stimulants. The dipsomaniac before commencing his debauch has certain psychical, premonitory symptoms. He is nervous, low-spirited, loses his wonted interest in his business, seeks solitude and life seems a burden. To relieve this mental condition he resorts to stimulants. I know it is a disputed question whether this condition is purely psychical or the result of some obscure disease of the nervous system. Dr. Bucknill denies the disease theory, while Dr. Clouston and others equally well informed maintain it. But I see no reason why the psychical condition which results in dipsomania may not be as truly mental as that which results in dishonesty, theft and cruelty. No fact is better established than that the vice of intemperance, like other vices, and peculiar mental manifestations is due, in many instances, to hereditary transmission. Had I time and were this subject germane, I could cite numerous instances showing the liability of transmitting to offspring the peculiar mental characteristics caused by inebriety. That which in the parent was merely a habit, becomes in the child an impulsive uncontrollable desire which all the motives that can be brought to bear upon the understanding conscience, self-interest, self-esteem, friendship, love and religion are powerless to influence or control. Could we lift the curtain and unveil the family history of some of our most distinguished men, we should be appalled at the fearful inheritance they have transmitted to their children. To say nothing of the descendants of some of our most distinguished statemen, I will refer to the two Coleridges, father and son. The father an opium eater, the son an inebriate. The son aware of his own weakness wrote thus of himself:

"Oh! woeful impotence of weak resolve,  
Recorded rashly to the writer's shame;  
Days pass away and time's large orbs revolve,  
And every day beholds me still the same:  
Till oft neglected purpose loses aim,  
And hope becomes a flat unheeded lie."

Inebriates not only transmit a desire for stimulants, but a great variety of morbid mental conditions. The late Dr. S. G. Howe found, that out of 300 idiots he examined, 145 were children of intemperate parents. The first and most important mental faculty to be affected by alcoholism is the power to control the will. How often we see instances where inebriates have tried to reform—signed the pledge and joined a reform club—who, when the first wave of temptation overtakes them, fall away. The strongest intellect, the highest cultivation, the greatest refinement and the most delicate conscience, when subjugated by alcoholism, has no power of resistance. The older members of this society can call to mind the Washingtonian Movement, inaugurated by John Hawkins, of Baltimore. By his example and preaching, many drunkards were reformed. Some became religious, joined churches, and, for a while, ran well, but the majority fell away and became as bad as before. I know that some men claim that they can accomplish more intellectual labor while taking alcoholic stimulants than without them. It is, no doubt, true that some of the master-pieces of Poe, Burns and Byron, were inspired by alcohol; so, no doubt, we are indebted to opium for some of the profoundest thoughts of Coleridge and the brilliancy of DeQuincy. The same phenomena are sometimes observed in insanity. Cowper, when insane, wrote most delightful poetry. The legitimate influence of alcoholism upon the intellectual faculties are seen in loss of memory, impaired judgment and dullness of observation. The moral faculties suffer no less than the intellectual. It seems to paralyze the higher moral faculties, the sense of right and wrong of duty and accountability, giving full sway to the lower passions and propensities. The most important part of this subject is the relation of alcoholism to insanity. In

reading the reports of our insane asylums, I find that a large percentage of cases are attributed to alcoholism. But the insanity to which I wish more particularly to call your attention is that of insane drunkards. The insanity which lasts only while the victim is under the influence of alcohol, and which passes away when he becomes sober. Among the insane drunkards we have every variety of symptoms that are observed in an insane asylum. One will have melancholia with all the characteristic symptoms peculiar to that form of insanity: depression, self-blame, suicidal tendency with direful forebodings of impending calamities. Another will exhibit the symptoms peculiar to general paresis, the same self-complacency, exaltation and extravagant ideas and actions. He will imagine he has untold wealth, and will spend freely and foolishly whatever he has. Another will manifest all the symptoms of acute mania: intense excitement—the reason completely dethroned, and all the lower passions in full play—destructive and homicidal, a perfect terror to all around, and utterly regardless of the consequences of his acts. Our newspapers are constantly reporting the terrible tragedies perpetrated by this class of insane drunkards. Many of this class claim, when sober, that they have no recollection of what they have done. Another class will have all the symptoms of dementia, with its stolid indifference, the mind oblivious to everything around them. The mental symptoms exhibited by those suffering from delirium tremens, is not foreign to the subject under consideration, inasmuch as the peculiar form of mental manifestation in this disease is due to the poisoning influence of alcohol upon the mind. Fear is a uniform symptom common to all such cases—fear of death, fear of devils, fear of enemies. They have hallucinations of sight and hearing; sights of the most terrific character annoy them. Robbers, spectres, ferocious wild beasts surround them; snakes crawl about their beds; fiends are getting in the windows or coming down the chimneys; they hear voices and sounds terrific. The

terrible mental sufferings of such persons are expressed in every feature and by their trembling, restless, agitated movements. There is a form of insanity due to chronic alcoholism, which differs very materially from the acute attacks that frequently accompany and follow intoxication. It is seen in some persons, where the intoxication is prolonged and it becomes a fixed habit. The mental symptoms are less acute than in the insanity of acute alcoholism, but more persistent and continuous. The delirium is milder, of the melancholic type. There is distrust of friends, fear of persecution; the memory and judgment are weakened; the imagination is perverted, and the moral sense greatly impaired. Such an one will become apathetic, indifferent, stupid; will bestow but little attention upon his person, and will take no care of his business or family. Talk with such an one and he will make no effort to conceal the cause of his miserable condition, and will weep and lament because he is unable to extricate himself from the deplorable results of his habits. Little by little this form of insanity increases. At night, while half asleep, all sorts of ill-defined phantoms torment him, and he seeks relief in new potations which may allay them for a short time, to be followed by hallucinations and illusions of more hideous and frightful forms.

From this enumeration of the mental phenomena expressive of inebriety in its various forms we see what a great variety of psychical symptoms alcohol will produce that are not due to any structural lesion of the brain. The most prominent effect of alcohol upon the mind is a paralysis of the will and higher moral and intellectual faculties, and stimulation of the lower and vicious propensities; and the symptoms of nearly, if not quite, all of the various forms of insanity, at least such as are not peculiar to the female sex alone, may be produced by it.

## Art. X.—On the Propositions of the Association on the Organization of Hospitals for the Insane.

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*THE SUPERINTENDENT AND PHYSICIAN.*

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WHEN, in the advancement of medical science and the development of clearer and more correct views on the subject of mental disorders, it became evident that some other method of treatment must be resorted to than that which had, for its primary and principal object, the detention and confinement of those afflicted with mental disorders, and that such disorders were to be traced to some disease or disordered condition of the bodily system, the employment of physicians to take charge of such persons, became, as a dictate of common sense, a matter of simple justice and propriety. Institutions were at first organized so that the general management of affairs was committed to some one who could attend to the purchase of stores and the employment of those who might be needed to perform the various offices in the domestic arrangements of the institution, and the physician made his visits to the patients daily, or occasionally, as his other duties in general practice enabled him to do. This was soon found to be unsatisfactory from the fact that the insane required more careful, constant and regular attention, and this could be given much better by some physician resident on the premises, and, when that plan was decided on and fairly

tried, it became farther evident that, for the successful execution of all the affairs of the institution, it was necessary, in place of two or three officers directing different departments, and often with a diversity of views, the whole authority should be lodged in one who should be the chief executive officer, and manage and direct all on some definite plan, with a view to greater harmony and success. The qualifications and duties of such an officer are clearly and succinctly defined in the following proposition :

4th. "The physician should be the superintendent and chief executive officer of the establishment. Besides being a well-educated physician, he should possess the mental, physical and social qualities, to fit him for the post. He should serve during good behavior, reside on, or very near the premises; and his compensation should be so liberal as to enable him to devote his whole time and energies to the welfare of the hospital. He should nominate to the board suitable persons to act as assistant physician, steward and matron. He should have the entire control of the medical, moral and dietetic treatment of the patients, the unreserved power of appointment and discharge of all persons engaged in their care, and should exercise a general supervision and direction of every department of the institution."

Not only should the superintendent and physician be fully educated in medical science, but he should have had experience in the treatment of the insane by residence in, or connection with some institution in which their treatment was the special aim; for the plain reason that, as mental disorders form a class, rather peculiar in their manifestations, a residence among them will give an insight into those peculiarities and the proper and best methods of management which cannot be gained from books or in any other way.

The theory has lately been advanced that, in order to the successful treatment of the insane, a physician should spend several years in the general practice of the profession, that thus he may be better qualified for the discharge of his duties. That theory proceeds on the fallacy that an amount of general disease is found among the insane which is not verified by experience, and is opposed to the view so carefully and steadily adhered to in everything



else, that the sooner a man gives himself to the special examination and duties of the calling in which he proposes to engage, the better and the earlier will he be qualified for the performance of those duties. Every physician desirous of becoming thoroughly acquainted with disease of the heart and lungs will seek those institutions where the largest number of those complaints are to be found, that thus he may be better able to obtain a full knowledge of those minute but essential points, presented in a great variety of cases, which will enable him more readily and more successfully to judge of and discriminate them when called to any one suffering from any such diseases. The same holds true in every other branch of the profession and every trade and calling.

Men who desire to be thoroughly proficient in their calling do not waste their time over a variety of matters having general relation only to what they design to pursue, but they give themselves at once directly and assiduously to the careful study and practice of that to which they propose to devote themselves. A physician engaged for a number years in general practice, has to commence at the beginning, when he enters a hospital for the insane, and he does not find what he has devoted himself to for several years so great an aid in the acquirement of what he has now turned his thoughts and attention to as he hoped, and he finds himself compelled to give more time and closer thought to his new duties, and free his mind from many ideas which had been sedulously cultivated in prospect of other duties. When a young man has completed the usual course of medical studies, and can enter a hospital for the insane, he will, by careful study of the cases coming under his care, obtain a better knowledge of their peculiar disorders, modes of thought and the way in which he can best meet all those varying conditions, and be much better qualified to guide and direct them in the right way, than one who has been in general practice and has to commence just where he did, with the disadvantage of a mind pre-occupied with modes of thought

and views adapted to other and different conditions. There is no high road or short cut to proficiency in any branch of the profession, but the knowledge required can only be obtained by hard study, careful thought and diligent examination of every case which is brought to notice or placed under care.

Not every man has the nerve and dexterity to be a good surgeon, though he may have the requisite knowledge. Few men have the nicely discriminating distinction of sounds, requisite to detect the finer sounds of the heart and lungs when diseased; and so it is not every man who has the peculiar temperament and other qualifications which will enable him to become a successful superintendent of a hospital for the insane, and win his way to the confidence of his patients and their friends.

A man may be most thoroughly acquainted with all the minutæ of the anatomy and physiology of the brain and nervous system, and be able to make his way to a good general practice, who, from some peculiarity of temperament, may be totally unfitted to conduct the treatment of the insane.

The superintendent and physician should be a man in the enjoyment of good bodily health, of a quiet, pleasant and agreeable manner, even-tempered, or with good control of his temper, for he who would control others must first control himself; gentle and kind in all his intercourse with those about him, easily approached and free from all assumption of importance; of a cheerful disposition and happy temperament, and always ready to speak a pleasant, cheering word to all those under his charge; firm and decided in all his convictions and views, but not so impressed with their importance as to be constantly obtruding them on all occasions; willing to devote himself heartily, and at all times, to whatever may be requisite to promote the welfare of those under his charge. He should be liberally educated, endeavor to keep himself well informed on all matters of general interest in the community, so that he may be able to bring to his aid

everything which can be of advantage to those entrusted to his care. His social position should be such as to give him access to the best society, so that he may be able to gain and to retain the confidence and esteem of all classes of the community. He should be, at all times, readily accessible to all, and, on that account, he should, in every State institution, reside in the building, so that he can not only visit his patients at any time during the day or night he may desire, but also that he may be in a position to give to the relatives and friends, who may visit the institution, such information as they may desire, and also to all who may have occasion to call on business of different kinds connected with the hospital. In a regularly incorporated institution, not under State control, the residence might be on the grounds of the hospital or wherever it could be placed with the greatest convenience to all parties concerned.

Wherever his residence may be, whether in the hospital building or in a separate house, he is entitled to apartments strictly private, and free from all liability of intrusion, so that his family may enjoy that retirement and freedom to be had only in a family circle, and this is more particularly desirable when he has a family of children, that they may be as free as possible from all association of an unpleasant character.

As he is prevented by the absorbing duties of his position and his residence from engaging in any private practice, his compensation should be so liberal that he can give his whole time and thought to his duties in the hospital without distraction and without being harassed with the fear and anxiety that he has not sufficient to enable him to provide for his family properly, give them that liberal education which they should have and enable them to enjoy the society in which he has been accustomed to move.

No community has the right to require the performance of arduous and responsible duties, demanding all a man's physical and mental energies without giving him in

return a full equivalent for what they require, and that equivalent should be graduated in an enlarged and enlightened view of the duties required, and the restrictions on his social enjoyments and professional opportunities.

The term for which the superintendent is appointed should be during good behavior, or for a long term of years, not subject to removal for partisan purposes, or by reason of the changes of party politics, because as has been very well said, "in the selection of medical superintendents to hospitals for the insane, it is important to choose men with the highest qualifications both as respects professional acquirements and moral endowments: and therefore, that any attempt, in any part of this country, to select such officers through political bias, be deprecated by this association as a dangerous departure from that sound rule which should govern every appointing power, of seeking the best men irrespective of every other consideration."

As the chief executive officer of the hospital, he is held responsible for the manner in which the affairs of the institution are conducted, and on that account all orders of every kind from the trustees or others should pass through him to the other officers of the institution, and in the same way, all communications from them to the trustees should pass through his hands. There can be but one head to any institution, and the attempt to conduct any institution in any other manner must result in confusion and trouble; that has been the uniform experience of all past time, and will be for all time to come until the time arrives when all will think alike, be animated by the same spirit of mutual forbearance and good will and free from all envy, jealous and uncharitableness.

It has been the very general experience in all sections of this country, and in fact, in every civilized country where similar institutions exist, that the difficulties in the management of the institutions have arisen from the efforts of subordinate officers to assume and exercise authority which did not strictly belong to them, and thus to en-

deavor to undermine and interfere with the authority of the chief executive officer, and unless such a spirit is promptly checked, it is sure to give rise to difficulties which interfere with the harmonious and successful administration of the affairs of the institutions.

To secure harmonious action it has been found most advisable that the selection of all the subordinate officers should be placed in the hands of the superintendent, in order that he may be able to have around him those who will feel bound by honor, and a regard to their own welfare, to do all in their power to aid him in the discharge of the duties devolved on him, and to consult freely and fully with him in all matters pertaining to the interests of the hospital and the welfare of its inmates.

As the most enlightened treatment of the present day embraces everything which can be made subservient to the greatly desired object of the restoration of those afflicted with mental disorders, it is wisely provided that "the entire control of the medical, moral and dietetic treatment of the patients" should be left in the hands of the superintendent and physician. He alone is able, by a careful study of those placed in his care, to judge what will be most serviceable in each case; and as no one of enlightened views at the present day pretends that medicine alone can relieve or remove the idle fantasies of the brain; the proper kind of food to be eaten to invigorate the system and place it in the most favorable condition after the removal of any diseased action, and the proper kind and degree of exercise, must be directed by the same mind which directs the medical treatment.

Very often the amount of medicine required is small and the hygienic measures, or the proper and systematic regulation of the food, sleep, exercise and other matters of the kind are those most relied on; and with these must be combined every appliance which can be devised to divert the mind from its morbid fancies and lead it into healthy channels; and when once led in that way, to strengthen and develope all the powers of the mind in the

most judicious manner, that the individual may thus be better fitted for the duties, the trials and the responsibilities which lie before him in life; even where a restoration cannot be effected, very much may be done to promote the happiness and comfort of those whose minds may be partially clouded or so disordered, as to render them unable to do anything for their own relief or comfort.

It will be evident, at the first glance, that such a course of treatment can only be devised and thoroughly carried out by one mind, which can so arrange all the details as to make them conspire and combine in the most advantageous manner to the accomplishment of its designs. With these means must also be combined "the unreserved power of appointment and discharge of all persons engaged in their care," for without this power and its timely and judicious exercise, it would be impossible to adapt means to the end, so as to reach, in the most direct manner, the object held in view.

Attendants, being constantly with the patients, have the opportunity of doing much good by their prudent advice and counsel, and by the manner in which they treat those under their care, and they have also the opportunity of doing much injury by such a course as will give wrong impressions to the patient, and influence him in an improper manner. The wilfulness, the carelessness, the indifference or neglect of attendants may thwart the best devised plans, and, unless the power is held and exercised when needed, which will enable the superintendent to remove all obstructions in the path, it would be clearly impossible to secure the best results.

If the attendants are appointed by an authority, separate from the superintendent, they will naturally feel that they owe no allegiance to him, and will not be inclined to obey his directions, more particularly if these directions should require of them a greater degree of attention to their duties, or a more exact conformity to rules than they may think required of them.

It is the favorite theory of many reformers of the

present day, who possess, in the highest degree, the destructive faculty, but have very little, or none, of the constructive, that each department of the institution should be under the control of a different individual, and all directed by a number of non-resident gentlemen, whose time is occupied by their own special duties, and, however well intentioned, have neither the time nor the inclination, too often, to give to the examination of such details as must be necessary for a thorough understanding of all the facts and circumstances which are absolutely necessary to arrive at a clear and reasonable conclusion.

To meet such a state of things, it is wisely provided that the superintendent "should exercise a general supervision and direction of every department of the institution," and every man of business, who has had success in his own affairs, will readily assent to the truth of the proposition, because none know better than himself that if he had not kept a careful supervision of all the different matters under his control and management, and directed them steadily and persistently in one direction, and with one uniform purpose, he never could have succeeded in his business.

The same principle applies in every department of every trade and profession by which the affairs of this world are managed; and it is a well recognized fact with all who will be guided by the experience of the past, and not by their own whims and crotchets, that one paramount authority must control and direct every institution if the object of that institution is to be attained with any degree of success.

All executive officers are of course bound to give due obedience to the authority which appoints them, but at the same time the appointing power should confine itself carefully and exactly to the rules which it has laid down for its own guidance, and not go beyond or behind those rules in any way or for any purpose, and any departure from this principle will be sure to lead to difficulty sooner or later. In case of difference of opinion, the points of

difference can be best adjusted and arranged by a free conference and mutual explanations; but matters, entirely unconnected with the relations in which the parties stand to each other, ought never to be allowed to have any determining influence over the minds of either party.

Since the above was written, I have had the very great pleasure and privilege of looking over the work on "Hospitals for the Insane," by Dr. Kirkbride, so widely known and highly distinguished, no one, in fact, more so, for his life-long labors in the cause of the insane, and with his kind permission, I make the following extract in corroboration of the views advanced in the paper :

"It would seem to need but little argument to show that a hospital for the insane should have but one official head—in reality, as well as in name—to whom every one employed about it must be strictly subordinate. It would be just as reasonable to suppose that a proper discipline, or that good order, would prevail on board of a ship with two or more captains, or in an army with two generals-in-chief, or in a college or school with several principals, as to expect to find them in a hospital of the kind referred to, where two or more individuals are acting independently of all others, or in which there are certain officers over whom the physician-in-chief has no control.

If such an arrangement ever worked well anywhere, it must have been owing to some very rare or exceptional mental organization in those acting under it, and not because the principle is not radically wrong. Every such trial—there have been many within my own observation—so far as I know, has been a complete failure in the past, and, in my opinion, is sure to be so in the future.

The very peculiar character of a majority of the patients received into such institutions, the numerous body of assistants required in their care, the large number of persons employed in the various department, the necessity for active and unceasing vigilance, joined with gentleness and firmness in all intercourse with the menally afflicted, and for prompt decisions in cases of difficulty,



rendered it indispensable,—if we wish the best results, that a large amount of authority should be vested in the chief officer.

It must always be borne in mind that every department of a hospital for the insane, its farm and garden, its pleasure grounds, and its means of occupation and amusement, no less than its varied internal arrangements, its furniture, its table service, and the preparation and the serving of the food, the mode in which its domestic concerns are carried on, its heating and ventilation—everything connected with it, indeed—are parts of one great whole, and, in order to secure harmony, economy and successful results, every one of them must be under the same general control. It is not to be supposed that the chief physician of the institution should personally superintend all, or a majority, of these matters, or fritter away his time in a constant attention to their details, or even that he should be proficient in every one of them; but he should be expected to be so constituted, mentally and physically, as to be able and willing to make himself familiar with all of them, so far, at least, as to know when everything is in good order, and when all services are properly performed. He should especially have that kind of tact and judgment which will enable him to fulfill, efficiently, one of the most important functions of his office, that of selecting individuals for every department, fully qualified to discharge their appropriate duties, and who will be held by him to a strict accountability for the proper performance. It is a great error to suppose that there is any detail about the management of a hospital for the insane beneath the dignity, or unworthy the attention of its chief medical officer. Everything that has any relation to the patient—and everything has some direct or indirect connection with them—may have an influence not readily appreciated by a careless observer, and, to preserve unity of purpose, nothing should be arranged or changed without consultation with the head of the establishment.

The physician-in-chief, who confines his attention to the mere medical direction of the patients, must have a very imperfect appreciation of his true position, or of the important trust confided to him. He becomes, in reality, a very secondary kind of officer, and his functions will be pretty sure to be considered, by many around him, as quite subordinate in importance to these of some others concerned in the management of the establishment, which, under such an arrangement, can hardly keep permanently a high character.

It is unfortunate for hospitals for the insane that so many physicians show their ability, only in prescribing medicine and conducting pathological investigations, for, important as these unquestionably are everywhere, they are only a part of what is essential in the chief of a hospital for the insane. It is quite safe to say that the most expert diagnostician, the most accomplished microscopist, the most brilliant lecturer or writer—desirable as all these accomplishments are, may still be utterly unfit to be placed at the head of such an institution. No one will deny that the arrangement recommended—which is the only one that can be relied on to work satisfactorily—places much power in the hands of the chief physician, but it must be remembered too, that in him the responsibility mainly rests. A man to whom this amount of control cannot be safely intrusted, certainly is not the person to be placed at the head of an institution containing 250 insane patients. Dividing this power between two, three or more, would only tend to produce discord, destroy all proper discipline, and prevent prompt and wise action. The simple profession of adequate authority by the chief executive officer of such an institution, often obviates the necessity of its being exercised. It may be unseen and unfelt, and yet a knowledge of its existence will alone often prevent wranglings and difficulties in the household, and secure regularity, good order, economy and an efficient discipline about the whole establishment.

The long continued and uninterrupted performance of

the duties of a hospital superintendent among his patients is a tax upon the mental energies, and ultimately upon the physical powers of an individual, not easily appreciated by those who have not had some experience of the kind; and one of the best modes of counteracting these effects, is for that officer to devote a portion of his time to the supervision of out-doors affairs. By this means, without leaving home, he will not only have the invaluable advantages of active muscular exercise in the open air, but also a form of occupation for the mind, that will more effectually than any other, divert it from the train of thought induced by a protracted visit through the wards. Change of occupation—both mental and physical—is the relaxation of a superintendent of a hospital for the insane, and is indispensable, if he expects for any long period to preserve his health and usefulness. So many noble men in our own country have already broken down while engaged in the zealous performance of these duties, that hardly a better contribution could be made to the cause, or one that would more subserve the interests of the afflicted, than that which would aid in preserving the mental and physical health of the right kind of hospital physicians, and in securing a proper supply of them.

The nomination of the assistant physicians, steward and matron, by the superintending physician, will probably secure harmonious action between these officers, in the operations of the house. This point is one of great importance, and without it, there can be neither satisfaction nor the best results in the management of the institution. No board of trustees having at heart the prosperity of a hospital for the insane, could be willing to select or retain in office, any of those named, who do not cordially aid in promoting the views and carrying out the plans of the chief executive officer. No subordinate officer not entirely loyal to the chief executive officer should be permitted to remain in any institution."

## Art. XI.—Unilateral Gunshot Wound of the Cerebrum, with Sequel of Right Carotid Inter-Cranial Aneurism and Left Hemiplegia.

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Reported by Drs. HODGEN and CONNERY, St Louis.

ALEXANDER YULE, aged 18 years, was wounded on the night of June 21st, a pistol ball having entered his skull a little below the outer angle of the right orbit. He had vomited, and was then comatose. His pulse was feeble, intermittent and "fluttering," and his breathing was stertorous. Dr. Connery, who attended him, gave him brandy till reaction came on. He was semi-comatose the next day, but his pulse and breathing became good. The wound was enlarged and kept open. There was complete left hemiplegia and rapid emaciation, notwithstanding he was abundantly nourished. Restlessness, acute pain in the head, and marked insomnia appeared, over which bromide of potassium had but temporary effect. The restlessness became extreme when not restrained by chloral. The face was not much distorted, but the tongue, when protruded, was drawn down, and to the left. His speech was muffled, thick and difficult. The right iris was *dilated*, the left one *contracted*, and there was ptosis of both lids. The right eye was first inflamed and protruding, then the left. The pulse ranged from 80 to 88 beats per minute, and regular till within about a day before death, when it became again feeble and irregular. Febrile symptoms were slight. Finally, repeated hæmorrhages came from the brain through the wound, and the patient died seven weeks from the day he was shot.

The autopsy revealed a vertical cicatrix, three-fourths of an inch in length, just above the right zygoma, about one inch posterior to the external angular process. There was a large collection of dark fluid blood under the dura-mater, chiefly about the anterior portion of the right hemisphere, and connected with a large cavity filled with blood above the ventricles, extending into the anterior and posterior lobes, and communicating into the lateral ventricle in the middle cornua.

The basal ganglia were not disturbed or encroached upon.

The cavity was connected with an aneurismal sac, which was formed on the carotid artery, just as it passes along the body of the sphenoid, and extended to the inner aspect of the external wound. The bullet formed part of the sac, and rested beneath the posterior clinoid process, having cut the artery.

SELECTIONS.

CHARCOT ON THE STUDY OF NEUROLOGY.—As a sequel to, and in consequence of, the progress accomplished by the anatomy and physiology of the nervous system in the course of the last thirty years, nervous pathology has been, in its turn, renewed and enriched. In the vast domain of neuro-pathology, those parts of the soil which have, at all times, been cultivated, have been enlarged at almost all points; regions, heretofore uncultivated, have been cleared, and promise large yields; unexplored tracts have been discovered, and thus old riches, accumulated by tradition, have added to themselves the fruits of new conquests.

The great movement which has led to such results is by no means ready to stop. To produce it, the love of novelty and fashion have done very little. It recognizes the most profound causes for its vitality, and its

power seems to become more marked each day by the ever increasing number of good publications.

For a long time, the work done in neuro-pathology has been disseminated in those large periodicals, where medical productions of every variety find place.

One day, it was thought that it would be both rational and profitable to unite these labors in a special publication. It was only in this way that they could be made profitable: by uniting them, grouping them, and classifying them according to their natural affinities. Here, only, could psychiatry, long since specialized, be brought into permanent contact with neuro-pathology proper; these are two parts of the same unit separated by practical necessities, but philosophically associated and held together by indissoluble bonds.

Abroad, several publications of this kind have appeared in the past several years.\* In France we do not yet possess one which exactly fills the requirements we have just mentioned, and it is with the intention and hope of filling this hiatus that the *Archives de Neurologie* has been founded.

In medicine, now that analysis has become more profound and learned, and now that facts are multiplied unceasingly, and almost to infinity, no one could seriously think of embracing, or of thoroughly knowing, everything; the encyclopedia is more than ever above the strength of any individual, each one of those who work, sooner or later, learns the necessity of limiting himself, if he would not be forced from the field of his labors. From this springs a state of affairs which tends to become more and more pronounced. From one point of view, it is not devoid of perils. The far-seeing ones are becoming alarmed; they ask themselves if the unity of our science is not going to disintegrate some day, divide into an indefinite number of narrow specialties, struck, so to speak, in their very inception, with a barrenness proportionate to the isolation in which they may be thrown.

This danger we are far from ignoring, but escape is possible, we are convinced, by a good organization of work.

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\*In England: *Brain*, a journal of neurology.

In America: *The Journal of Mental and Nervous Diseases*, and *THE ALIENIST AND NEUROLOGIST*.

In Germany: *Archiv für Psychiatrie und Nervenkrankheiten* and *Centralblatt für Nervenheilkunde, Psychiatrie, etc.*

In Italy: *La Rivista Sperimentale di Freniatria di Medicina Legale*, and *l'Archivio Italiano per le Malattie Nervose*.

In France: *Annales Médico-Psychologiques*, a journal held in high esteem, and more particularly devoted to mental diseases.

This is a proposition which may yet be sustained at some future time and in a suitable manner. At present, we limit ourselves to the assertion, that a well directed federal system does not exclude amity and harmony in efforts; that it is possible, 'when endowed with a broad education, and when deriving light from all branches, to stop and consider closely the partial fact, the episode, without fear of losing sight of the relations, the entirety, the whole history; that, in such conditions, even when restrained in a confined space, it is possible, by rising, to see the horizon enlarge.

Nowhere else than on neuro-pathological ground can we better conceive the necessity of placing the specialty on a solid foundation of strong general culture, keeping up incessant communication with its surroundings. For, in the living organism, the role of the nervous system is almost universal; here, dominating; there, dominated, whichever it is, it matters but little; in fact, but very few cases present themselves, either in physiology or pathology, in which some part of the nervous system is not more or less directly involved. With such existing conditions, the drawbacks attached to a too-exclusive study, are not formidable.

The *Archives de Neurologie* has, for its principal objects, nosography and the *clinique*. But a large space will be accorded to anatomical, physiological and pathological researches; to work, in which experiments and the procedures of the physical sciences are adapted to clinical facts, and contribute their aid in observations; in a word, space will be given to all those efforts inspired by modern scientific intelligence, and which have been, and will continue to be, great forces in producing progress. Finally, and this may become a future of this journal; writings will be most warmly received, which will especially tend to establish intimate relations between nervous pathology, regarded as a distinct branch, and other departments of medicine. (Introduction to the new French journal, *L'Archives de Neurologie*.)—Translated by A. H. Ohmann Desmesnil, A. M. M. D.

THE PRESENT STATUS OF NON-RESTRAINT IN GERMANY. CONTINUATION OF DISCUSSION—NASSE'S VIEWS.—For the last fifteen years he has abolished mechanical restraint in his practice as far as practicable, and declares himself a decided advocate of the method, still he cannot but name a

a number of classes of patients who must be restrained by mechanical means, and this, upon the basis of his experience in Anderaact during the last few years, to wit: Surgical cases and eye cases, persistent self-umbulators, excessive masturbators, especially females; further, those who persist in standing until their feet become œdematous; cases of excessive anemia that need the horizontal position; those that kneel persistently until the skin over the knees becomes gangrenous; further, cases of excessive motor disquietude with fever, for instance, cases of melancholia agitata, and those of acute delirium of male paralytics (securing patient in bed, use of wet blanket). Lastly, where the patient beseeches to be restrained from fear of injuring himself. Feeding with a bougie may be also considered restraint (but still he resorts to it in cases of obstinate refusal of food). Also, *Koprophogœ* need restraint, though it be doubtful whether it is proper except in cases of excessive filthiness. Finally, it cannot be denied that there are cases which wear out the patience of the attendants, and which are so dangerous to them that restraint must be employed. In such exceptional cases, he considers the failure to employ mechanical restraint as inhuman, for it is the duty of the physician, as well as to the patient's interest, to employ it. The speaker concluded by quoting the sentiments of Yellowlee's: "non-restraint in so far, and so long as it is to the interest of the patients." Snell asked information on the subject of "Isolation," the advocates of non-restraint in England claim that they isolate the patients only at night, and then not very strictly. He believed that these were theories that no one had ever put into practice. Filber has not used the jacket since 1870. In reply to Nasse, he would say that it is not necessary to humor the patients, they can be disciplined, but should not be harassed; it is necessary to individualize. Even surgical cases, as well as most of those mentioned by Nasse, can be treated without the jacket, by means of constant watching. Forcible feeding is not restraint. Conolly was right in objecting to isolation—it need not be employed even in the case of homicidal maniacs if they are put with well persons at first, and only later allowed to be with other patients. Brosius wished to know what substitute had ever been found for the jacket; what role do drugs, baths, and nourishment play in the treatment. Everyone is agreed that non-restraint is to be aimed at



as far as practicable. He has banished the jacket, but its place has been taken by cells and by walled enclosures. It has not yet been proven that baths are of any service. According to his experience, a generous diet is the best substitute for the jacket. Besides, he could not understand how it is possible to treat the cases enumerated by Nasse without restraint. Excitable patients cannot be held day and night by attendants (in fact, such attendants cannot be found), and to narcotise them with morphine is worse still.

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## THE PRO ET CONTRA OF THE DOCTRINE OF CEREBRAL LOCALIZATION.

We continue brief records from the rapidly multiplying facts bearing upon this interesting subject by commencing where we left off in the last number, with a detail of more of M. A. Pitres' new facts relative to this study.

M. Pitres approaches the examination of this subject from the pathological side. To these must be added the experiments of Dr. R. W. Amidon, of our own country, showing the effects of willed muscular actions on the determination of local temperature in the brain, as an attempted demonstration of the subject (open, of course, to some objections, but still worthy to be studied), from a physiological standpoint.

FACTS PRESENTED BY M. A. PITRES CONTINUED.—We pass over observation third since it only refers to the case of a demented woman, in whom there was no hemiplegia, the autopsy revealing atrophy of the hemispheres (the weight of the whole brain being 870 grammes), and softening of the head of the corpus dentatum.

*Obs. IV.—Old right hemiplegia.—Aphasia.—Cortical softening of the third frontal convolution and of the frontal and ascending parietal convolutions.*

Chastus, aged 73 years, admitted to the Hospital for Incurables (service of M. Le Dr. Solles), has been affected for several years with right hemiplegia and aphasia. She pronounced no intelligible word. Secondary contracture predominating in the right upper extremity; the fingers are so strongly flexed into the palm of the hand that it is impossible to straighten them out. The contracture is scarcely appreciable in the lower extremity, her walking is easy.

Autopsy, Feb. 17, 1879.—*Right hemisphere*: healthy. *Left hemisphere*: large patch of yellow softening occupying the foot and upper face of the third frontal convolution, the lower half of the ascending frontal, and the middle third of the ascending parietal convolutions. On methodical sections, it was observed that the softening extended quite deeply into the centrum ovale, without affecting, however, the internal capsule nor the corpora striata. It had destroyed the inferior pediculo-frontal band, and the frontal middle parietal and inferior bands. The superior frontal and inferior parietal were preserved intact.

The left cerebral peduncle presented, at its middle part, a band, gray and oppressed from secondary degeneration. The left anterior pyramid was sensibly slighter than the right, but no modification of color or consistence was noted. Examination of the cord, after hardening, revealed a band of secondary sclerosis of the right lateral cord in the cervical region and the upper part of the dorsal region,

*Obs. V.—Right hemiplegia.—Aphasia.—Hemi-anæsthesia.—*

*Central softening occupying the inferior pediculo-frontal band, the corpus striatum and the internal capsule of the left side.*

L. . . ., a sailor, aged 43 years, entered the Hospital Saint Andre (service of M. Le Dr. Mabit), July, 1879, for a right hemiplegia with aphasia, which came on suddenly in June, 1878.

At the time of entrance, the following phenomena were observed: Total right hemiplegia, secondary contracture very marked in the right upper extremity, much less so in the lower extremity; sensibility greatly diminished in all the paralyzed side, almost absent in the lower extremity; aphasia, loss of memory of words; articulation almost impossible; hypertrophy of the heart; mitral insufficiency. Death, Nov. 6, 1879.

Autopsy: Dura-mater, healthy; quite abundant serous infiltration in the meshes of the pia-mater; *right hemisphere*, normal; *left hemisphere*—the arteries of the meninges were remarkably healthy. The pia-mater separated readily from the cerebral tissue lying beneath.

No appreciable alteration of the cortex; the third frontal convolution, and the ascending convolutions had preserved their consistence and color.

*Prefrontal sections.*—normal.

*Pediculo-frontal sections.*—At the end of the inferior pediculo-frontal band there was a center of yellow diffuent softening, with irregular edges, measuring about a centimeter high, and three centimeters across. The middle and superior pediculo-frontal bands were spared; the portion of the corpus dentatum comprised in the section was soft and almost diffuent.

*Frontal section.*—Upon this section was found a single focus, of the volume of a large hazel-nut, involving the upper third of the nuclei of the corpus striatum and the portion of the internal capsule comprised between them. The centrum ovale was healthy.

*Parietal section.*—The focus had the dimensions of a quite small hazel-nut; it was situated below the corpora striata at the precise point where commences the expansion of the fibres of the internal capsule. Upon the pediculo-parietal section it had no more than the size of a large pea, and was situated a little below the central masses at the lower end of the pediculo-frontal band. The occipital sections offered nothing abnormal.

On a horizontal plane, the focus of softening of which I have indicated the topography, after the examination of the transverse sections, would be represented by an elongated cavity, expanded towards its middle part, and terminated at the front and at the back by tapering extremities. This cavity commenced anteriorly at the end of the inferior pediculo-frontal band; it reached, in its expanded portion, the corpus striatum and the internal capsule, and terminated at the back at the end of the pediculo-frontal band, and destroyed the continuity of the fibres at the foot of the "couronne rayonnante."

The cerebellum offered nothing abnormal. The left cerebral peduncle was thinner than the right, and all its lower face was of a slightly yellowish gray color. The left side of the protuberance was atrophied. The left anterior pyramid was narrower and more flattened than the right, and presented a very distinct gray coloration. The cord, preserved in dilute solution of bichromate of ammonia, has not yet been cut for histological examination, but one can see already, with the naked eye, a descending sclerosis of the more manifest parts in all the extent of the right lateral cord.

THE VARIABLE DECUSSATION IN THE ANTERIOR PYRAMIDS OF THE CORD.—Apropos of the subject of cerebral locali-

zation, Dr. Landon Carter Gray, of Brooklyn, N. Y., at the conclusion of a most didactic essay read before the the Anatomical and Surgical Society, of that city, and published in full in the October number of *The Annals*, of that Society, thus refers to the discovery of Flechsig, and discusses the objection of Brown-Sequard :

Until within a short time, anatomists have assumed that the decussating fibres were always of the same number relatively to the non-decussating fibres. Among the most important of the discoveries, however, for which we are indebted to Flechsig, is the one that this proportion is extremely variable. He found two extremes. In the one, all the fibres of the motor tract entered the Lateral Pyramidal Columns of the opposite side of the cord, there being no columns of Turek. In the other, only 10 per cent. passed to the Lateral Pyramidal Columns, 90 per cent. descending upon the same side in the Columns of Turek. Between these extremes all manner of variations may exist. He gives the following table of the variations :

- 1 Total decussation (cases of the entire lack of the Columns of Turek).
2. Semi-decussation of one Pyramid, with total decussation of the other
  - a. Semi-decussation of the right Pyramid,
  - b. Semi-decussation of the left Pyramid.
3. Semi-decussation of both Pyramids.
  - a. Less than 50 per cent. of each Pyramid, or of both, remains non-decussated.
  - b. More than 50 per cent. of each Pyramid, or of both, remains non-decussated.\*

This discovery disposes of what is seemingly the most insurmountable objection to the waxing doctrine of cerebral localization. M. Brown-Sequard has collected, with his usual energy and enthusiasm, a large number of cases to prove that lesions on one side of the brain will sometimes produce paralysis upon the same side of the body; and, assuming in a by-gone fashion, that all motor fibres decussate, he believes that he has also proved the untenability of the doctrine of cerebral localizations. It still remains for M. Brown-Sequard to prove that the motor tracts of his cases did not vary, as Flechsig has shown us they may do.†

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\* Op. cit. P. 272, 273.

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† Brown-Sequard's experiments, according to which the gray matter of the cord is said to be in part the path of this transmission, are to me inexplicable, inasmuch as they make gray matter *conduct*—a something that can only be done by white matter, if we may trust facts in general. Moreover, they are flatly contradicted by the researches of Miescher (Ludwig's Arbeiten, 1870, p. 172) and Woroschiloff (Ber. über die Verhandl. der Königl. sächs. Gesellschaft Mathem. Phys. Classe, 1874, III., IV., V., S. 218), which are much more in consonance with accepted physiology and pathology. Conduction of sensation is along the white columns of the aesthetic tract, conduction of motion along the white columns of the kinesodic tract; this will, I think, be a justifiable statement in the present state of our knowledge, and will be confirmed by the future.

A CEREBRAL SYPHILOMA DEMONSTRATING MOTOR LOCALIZATION IN THE CORTEX.—Among the clinical notes and cases in the *English Journal of Mental Science*, for July, 1879, Dr. Clouston describes and delineates a syphiloma of the brain, which perforated the skull at the top of the parietal eminence. When, during life, the patient was tapped over this spot, which was always tender, convulsions of the opposite leg followed.

#### CONTRA.

BROWN-SEQUARD divided, in a rabbit, the right lateral half of the protuberance, when he noted a complete anæsthesia of the left paw. Dividing then the posterior cord at the level of the tenth dorsal vertebra, a section which is commonly followed by a hyperæsthesia of the posterior limbs, he observed the anæsthesia to persist on the left, while the hyperæsthesia appeared on the right side. He then performed a division of all that was left of the marrow of the left side; the anæsthesia gave place to a hyperæsthesia of that side, while the insensibility was carried over to the right side. The conclusion which the learned professor draws from this interesting experiment is: in lesions of the cerebrum the anæsthesia does not depend upon the conductors, but rather upon an influence exercised from a distance upon the spinal marrow.

In another series of experiments, Prof. Brown-Sequard divided the right corpus striatum. In the majority of cases he saw, as is generally admitted, a paralysis of the two limbs on the left side. Having then divided the pons Varolii of the same side, he saw the paralysis of the left side disappear, and, at the same time, a paralysis of the right side occur. The long recognized opposite paralysis was thus transformed into a direct paralysis. It follows from these facts that identical results can be obtained experimentally, in regard to the sensibility and motility, and that it is possible, by proper sections, to carry the paralysis from one side to the other.

In a third communication, Brown-Sequard reports to the society new experiments, not less extraordinary than the preceding. If in an animal, a dog for example, the motor zone, which presides over the movements of the opposite side, is exposed, one can, by a direct galvanization of that zone, easily prove the existence of those movements. If one then divides the corresponding half of the protuberance, *the whole part which up to this time has been considered as motoric*, he sees that the movements caused by galvanization instead of being diminished, are rather augmented, at least at all times when the animal is not in a state of syncope. Hemisections of the cerebral peduncle, and of the motor parts of the bulb give analagous results, with a few exceptions. In an animal in which the right motor half of the pons Varolii was incompletely divided, the left half of the bulbs was afterwards cut through, there remained no other way of communication between the two halves of the encephalon than by a small portion of the anterior longitudinal mass of fibres on the right side of the protuberance. Now, in this case, the galvanization of the motor centers at the right and the left, caused exactly the same movements in the limbs of the side opposite to

the centers. The experiment was repeated a number of times, always giving the same results.

In regard to the contre-proof, which consists in producing lesions of the motor centers, Brown-Sequard promises to give positive conclusions at another time. At present he believes himself already authorized to say that a somewhat profound lesion of these centers causes not a true paralysis, but motor disorders with alterations in the muscular sense. The exact removal of a motor center produces the same effect. Quite the contrary, when one removes the motor center, in passing around its border in a manner without either touching or irritating the same, then the most one observes is some functional disorder in a few minutes, but, finally, the pseudo paralysis itself is absolutely wanting.—*Gazette Medicale de Paris*.

GOLTZ'S. THE LOCALIZATION OF CEREBRAL FUNCTIONS.—Prof. F. Goltz, of Strasburg, removed nearly the whole of the gray cortex cerebri in a dog by the aid of a stream of cold water. The animal showed, at first, neither any sensorial nor intellectual activity, neither any spontaneous movements nor any sensual perception, and hardly a trace of reflex action. *A year after the operation, however, the dog moved about as usual, was capable of getting hold of objects with his fore-paws, and was fully in possession of all the muscles of his body.* Yet there remained a remarkably diminished power of sensual activity, and the animal was in a demented condition. There was actual proof that it received impressions through all the organs of sense, but the faculty of disposing of these perceptions was apparently missing.—*Pflüger's Archiv für Physiologie*. XX-I.

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## CLINICAL NEUROLOGY.

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NEW RESEARCHES ON THE NATURE AND MUSCULAR DISTURBANCES OF PARESIS.—The author comes to the following conclusions:

1. There is a real enfeeblement of muscular energy in general paralysis, of the same kind as one observes in all chronic affections, and yet this enfeeblement is not well pronounced.
2. There is no constant relation between the diminution of muscular energy and the progress of the marasmus. Even in the interval of several months, during which the marasmus was rapidly progressing, the dynamometer gave precisely the same results.
3. The disease called general paralysis of the insane, is, at no period of its evolution, an affection of a paralytic

nature. Up to the end, the patient preserves the voluntary power of contracting his muscles, and the possibility of contracting them with force.

4. The disease must be considered as a primary cerebral affection, an interstitial encephalitis.

5. It commences in the intellectual centers, which gradually become destroyed.

6. The motor centres are not destroyed as the intellectual ones, they are only accessorily irritated. The motor disturbances are also only of a secondary nature, they are not independent in their existence, they are always proportionate to the intensity of the cerebral disorders.

7. The direct cause of the muscular disorders is the intellectual enfeeblement and the fibrillar trembling of the muscles.

8. The fibrillar trembling seems to be due to an alteration of the muscular plasm, caused likewise by the special inflammation of the cerebrum.—The *Annales Médico-Psychologiques*, Jan. and May, 1879.—*American Journal of Insanity*, Oct., 1879.

GUNSHOT WOUND OF LEFT BRAIN.—RIGHT HEMIPLEGIA AND APHASIA.—RECOVERY.—Last June, Dr. Jno. T. Hodgen and myself saw, at Shawneetown, Illinois, in the practice of Dr. J. T. Binkley, a surgeon of that city, a most interesting case, which, for exemption from the usual permanent consequences of cerebral injury, is entitled to a place in medical annals, along with that of the celebrated case of Pheneas P. Gage, and is suggestive either of probable vicarious function, or the possibility of the reparation of brain tissue. The essential facts are condensed from Dr. Binkley's report on the subject, to the Southern Illinois Medical Association, for June, 1880, and published in the *St. Louis Medical and Surgical Journal*.

A colored man, 23 years of age, standing six or eight inches from the muzzle of a "Parker Bro.'s" shotgun, gauge 12, received from it a heavy charge of No. 4 shot. The skull was penetrated one and a-half inches anterior to the lambdoidal suture on the left side, near the posterior margin of the parietal eminence, following it two and a-fourth inches to a line drawn from one auditory foramen to the other, and about three inches above the left external auditory canal, shattering, depressing and carrying away soft parts, bone, membranes and

brain substance. The soft parts were destroyed, three and a-half by one and a-half inches; and the skull, a space two and a-fourth by a little over one inch. The range of the gun was about forty-five degrees. This happened at 10 o'clock A. M., Feb. 23d. The man fell and remained upon the ground apparently unconscious for two or three hours, after which he was conveyed to a near farm-house, where the doctor arrived at 3 P. M. The patient was then in a cold clammy sweat, with cold extremities, a pulse of 28, respiration 20 per minute, unable to move either right extremity, or articulate, while blood and brain substance came from the wound. On the next day reaction came on and he was moved six miles—one by land and five by water. The Doctor thinks the appearance of unconsciousness was due to aphasia, as he answered questions the next day by moving his head. On the 25th, the patient's pulse was 68, and respiration 30; on the 26th they were respectively 60 and 30; on the 27th and 28th, 50 and 16; March 1st, 60 and 16; March 2d, 56 and 16; 3d and 4th, 80 and 20; on the 5th 104 and 20; 6th, 84 and 18; 7th, 80 and 20; 8th, 82 and 18. On the 9th, marked improvement set in, with respiration and pulse about normal, which continued on through the month, and on May 1st all the functions were reported as normal. On this day a piece of bone, one by three-fourths of an inch, was removed. On the 27th of May, two epiculæ, 1-4 by 5-8 in., were removed; on the following day, a piece 3-4 by 4-8 in. was removed; and on the 30th three pieces one larger than any of the former, were extracted. When these epiculæ first appeared they were wedged down like a V under the inner table of the skull. A few weeks later several small pieces and a shot, which had been driven into the brain, come to the surface with the pus and were extracted. Altogether, from ten to twelve pieces of bone and two shot were taken away.

A considerable depression, covered with integument and cartilaginous substance remains at the site of the wound. The man has regained the use of his right arm and leg, and speech. The restoration of motion was preceded by tingling sensations and acute pain in paralyzed limbs, and involuntary muscular twitching, followed by voluntary movements.

Dr. Binkley thus praises gelsemium, which he freely employed in this case. "After the adoption of it I



invariably found all head disturbances relieved as soon as I could bring my patient under the influence of the drug."

[Dr. Binkley does not dwell upon this man's cerebromental state, but a careful examination by Dr. Hodgen and myself coupled with the testimony of Dr. B., satisfied us that it is good. This man has neither epileptic nor epileptoid disease, nor is he in any way impaired mentally. His natural retentive, reflective and emotional faculties continue as they were before the accident, the man being fully as intelligent as the average of his kind and station.—EDITOR.]

THE RELATIVE VALUE OF THE SYMPTOMS OF TABES DORSALIS.—From his own records of this disease, *Erb* (*Deutsch Archiv. fuer Clin. Med.*) finds the *lancinating pains*, the *analgesia*, the *ataxia*, *impotence*, and *tendency to fall* when eyes are closed, and the *absent tendon reflex phenomena*, very frequent and very common symptoms. In 17 out of 44 cases there was *early paralysis of the ocular muscles*; and in 6 out of 43, *atrophy of the optic nerve*. *Myosis* was present in 16 out of 28 cases, but not early. Since the latter symptom is only frequently found in progressive general paralysis when the pupils are unequal, he regards this characteristic immobility of the pupils to the impression of light, as *pathognomonic*. u

THE RELATION OF SYPHILIS TO TABES DORSALIS.—*Erb* regards as insufficiently established from his cases to form a foundation for the nosological distinction of *syphilitic tabes*, though he found a history of syphilis in half of the cases where it was sought for, and concedes that this disease may be a possible cause. [There is every reason to believe, from accumulating clinical testimony, that this protein virus is not only a possible etiologic factor, but that it produces a *typical tabes*, different from other forms only in its possible curability.—EDITOR.] n/

MORBID RELATIONS OF THE EAR TO THE BRAIN AND VISUAL APPARATUS.—At the recent international ophthalmological Congress at Milan, M. Bouchut presented a rare observation, showing the association of diseases of the ear with those of the brain and visual apparatus. A young girl of thirteen entered his service with otorrhœa and vertigo; the acuteness of vision was, at that time, normal. Moreover, at the base of the eye, there were hæmorrhages and a strangulated papilla appeared. Then, with the

vertigo, there came on a muscular enfeeblement and epileptiform symptoms, with deviation of the head. The intelligence remained *intact*. The acuteness of vision faded away and gave place to amaurosis. After three months, an optic neuritis and an exsudative neuro-retinitis were added to the more frequent attacks of epilepsy and a paralysis.

The autopsies showed caries of the petrous portion of the temporal bone, the absence of all meningitis and, in the floor of the fourth ventricle, a tumor which had destroyed the origin of the optic nerve. The microscope showed that this tumor was a gliosarcoma.

AURAL REFLEX EPILEPSIA.—Dr. Katz, of Berlin, records, in *La Presse Medicale Belge*, the case of a woman, aged thirty years, who, for a year had troublesome noises in her ear, and monthly or bi-monthly epileptoid seizures, excited by impact, cotton and hardened cerumen embedded deep in the auditory meatus. The noises and convulsions ceased when the mass was removed.

"BRIGHT'S DISEASE" PRIMARILY ONE OF THE RENAL PLEXUS.—Drs. DaCosta and Longstreth, of Philadelphia, (*Amer. Jour. of Med. Sciences*, July) conclude: That in Bright's disease, especially in the contracting kidney, there exists a constant lesion of the renal plexus, which, while it might be looked upon as forming part of a general process of degeneration in connection with the kidney disease, they regard as the *cause* of the renal malady, preceding the degenerative changes in the kidneys. They think the diseased ganglia furnish the clew to the alterations of the vessels of the diseased kidney, and that like changes, producing similar results, may exist in other ganglia; for instance, in the cardiac plexus, explaining the hypertrophy of the heart. Details of nine cases are given, with illustrations of the microscopical appearance of the renal ganglia. Striking pathological changes were discovered in all of the cases.

OPIHTHALMOSCOPY AND BRAIN DISEASE.—The following are the conclusions of Dr. W. R. Gowers: A symmetrical hemiopic defect in the field indicates an intra-cranial cause; an asymmetrical lateral defect generally indicates a pressure on the chiasma, caused by a distended third ventricle. Complete loss of sight of one eye and loss of the adjacent half of the other field is probably of cerebral origin. A peripheral restriction of the fields usually

results from damage in front of the optic commissure. And, in most cases of intra-ocular neuritis, damage from the visual changes. A central scotoma is observed only when there is a conspicuous lesion at the macula lutea. A chronicity of the neuritis probably may be taken as an indication of chronicity of the central disease. The converse proposition, that all forms of chronic brain disease entail chronic neuritis, does not hold good.—*Manual to Atlas of Med. Ophthalmoscopy.*

THE LOCUS MORBI OF PLUXBIC WRIST DROP.—DeWatteville (*London Lancet*, July, 1880) locates the lesion of lead palsy at the spinal origin of the seventh cervical nerves, quite contrary to the theory of Todd.

DR. CHERONI ON STAMMERING.—At the Amsterdam Medical Congress, last year, Dr. Cheroni, of Paris, maintained that stammering was not a spasmodic affection, but simply an incoördination of the multiple acts necessary for speech. Methodical treatment, carried on for three weeks, is generally attended with success. For the first week the stammerer is forbidden to speak, except at definite times set apart for practice in reading and recitation. During the second week he is allowed to speak, but carefully watched, so that he is made to articulate every syllable slowly and distinctly. Then he is permitted to speak a little more rapidly, and at the end of the third week he is cured of his fault.—*Philadelphia Medical and Surgical Reporter*, Nov., 1880.

ERYSIPELATOUS OPTIC ATROPHY.—Dr. W. A. Hardaway, Collaborator for the *Archives of Dermatology*, among a number of interesting gleanings, records from the *Archives Surg. de Med.*, Perinaud's account of eight cases of the above affection, two of them having occurred in Perinaud's own practice, and the remainder having been "collected from other sources."

FATAL TETANUS FROM VACCINATION.—Dr. Hardaway also presents an abstract reference to a case recorded in the *Southern Med. Clinic*, where death resulted as above. The vaccination had been done by a midwife, the virus having been inserted in two places.

One of the puncture sites looked normal, the other was a highly inflamed ulcer, from which the crust had been forcibly torn.

SYMMETRICAL NEURALGIA IN DIABETES MELLITUS.—Dr. Worms, of Paris, records two examples, one of sciatica

and the other inferior dental neuralgia, observed in this disease, and concludes that this is characteristic of advanced diabetes. He thinks the intractability and extreme intensity of the pain are as characteristic as its symmetrical character. He concedes, however, that the pain varies with the amount of glycosuria.

REMARKABLY SLOW PULSE FROM SUNSTROKE, WITH SEQUEL OF INSANITY.—At the St. Louis Medical Society, April 10th, Dr. Pollak related the history of a teamster, aged 32, who came under his care nine or ten years ago, having received a sunstroke the year previous. He was a large-framed, robust man. He suffered, after the sunstroke, from intense headaches, which were partially relieved by treatment.

The peculiar feature of the case was the slow pulse, which never exceeded fourteen beats per minute, and was often down to nine beats. There was grave cerebral lesion, which gradually developed into profound insanity. The patient finally killed his wife, and was sent to an asylum for the insane.

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### IDIOSYNCRASIES, ETC.

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RECOVERY AFTER BEING SHOT THROUGH THE HEAD.—The *Philadelphia Medical and Surgical Reporter* records a case reported by Dr. Diez, in *El Siglo Medico*, of recovery of a patient, aged nine years, after a revolver bullet, nine millimeters (one-third of an inch) in diameter, entering at the right temporal fossa, at the point corresponding to the center of the zygomatic arch, between the external angle of the orbit and the tragus of the ear, had passed through the brain at the corresponding side, but six millimeters higher on the left side of the head. There was temporary unconsciousness, epistaxis, exophthalmos, complete blindness in the right, and photophobia in the left eye; frontal cephalalgia, and, on movement, a subjective, dull, buzzing sound; right hemiplegia. The left photophobia disappeared so soon as the ball was extracted. Suppuration occurred sixty hours after the injury. The hemiplegia disappeared on the third, the exophthalmos on the seventh, and complete recovery, including the restoration of the lost sense of vision.

EXTREMELY HIGH TEMPERATURES AND RECOVERIES—DR. DONKIN has lately reported, in the *British Medical Journal*, the following instances of excessively high temperature, without fatal termination of the diseases in which they occurred: In the first case, convalescing from enteric fever, the temperature reached  $111.6^{\circ}$ ; in another similar case, it reached  $111^{\circ}$ . Another case was one of intense pain in the ovaries, without organic disease, the temperature reached  $108^{\circ}$ . In one of great abdominal pain, it reached  $115.80^{\circ}$ . In a third case of enteric fever, with double pneumonia, it reached  $113^{\circ}$ . In necrosis of an amputated stump it reached  $102^{\circ}$ . In a case of pyonephrosis, it reached  $117^{\circ}$ . These were all females. In one case of syngonitis (male), it reached  $112^{\circ}$ .

To these we may add one case of double malarial pneumonia, occurring in our own family, and reported to the St. Louis Medical Society, where the temperature rapidly rose to  $110^{\circ}$ , the patient recovered.

THE TEMPERATURE IN CEREBRAL CONCUSSION AND APOPLEXIA.—The observation has before been made of the fall of the temperature in apoplexia, but Kosurew (*Centblatt. für Chir.*, 1880, translated into the *Canada Journal of Medical Science* for December) gives the case of a Cossack, who fell from a height, wounding the parietal tissues of the head. He was unconscious for three days, and survived only five days. During this time, his pulse was 44 in the minute, and his temperature ranged, in the morning, from  $27.2^{\circ}$  to  $28.5^{\circ}$  C. ( $80.9^{\circ}$  to  $83^{\circ}$  F.), and, in the evening, from  $26.5^{\circ}$  to  $29^{\circ}$  C. ( $79.7^{\circ}$  to  $84.2^{\circ}$  F.). On post-mortem examination no fracture of the skull was found, but the vessels of the brain were found much congested, and the substance of the organ filled with small points of hemorrhage.

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## CEREBRAL AND NEURO-THERAPEUTICS.

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BI-BORATE OF SODA IN EPILEPSIA.—In his lectures on "Epilepsia," published in the *London Lancet* for February, March and April, Dr. W. R. Gowers speaks commendably of this remedy in ten or fifteen-grain doses, *ter in die*, though still retaining his preference for the potassium bromide, which latter he gives several times a day, with-

out cessation, for several months or years, giving, every few days, a single extra dose of twenty or thirty grammes, to secure the full physiological effect of the drug. His favorite combinations, with the bromide, are hyosciamus, cannabis Indica or digitalis. This is how he speaks of borax: "In some cases it did no good, but in twelve its value was most distinct. In one, fits, which had continued on bromide and on zinc, ceased entirely on borax for three months, and then only recurred when the medicine was discontinued. In another case, the fits continued (about one weekly) during three month's treatment on bromide and on belladonna. Borax was then substituted, the fits at once ceased, and for five months the patient had not a single fit; then he had one in each of the two following months; the dose of borax was increased, and up to the present time (eight months later) no other attack has occurred. In a third case, one or two attacks occurred once a fortnight on bromide. Borax was substituted, and for five months the patient had not a single fit. The doses given have been ten to fifteen grains, twice or three times a day. It produces, in some patients, gastro-intestinal disturbance, and, rarely, a form of dysenteric diarrhœa. By others it is well borne, and one of his patients has taken forty-five grains a day, for twelve months, without the slightest inconvenience, and says that no medicine has ever done him so much good. When the bromides fail, he thinks borax certainly deserves a trial."

As an addendum to the above, it may not be amiss to add, that, while in our practice this remedy effectually suppressed an epileptoid display in a case of *petit mal*, appearing as a sequence to a *grand mal*, long kept in abeyance by a bromide and ergot course, we had to discontinue it on account of the great gastro-intestinal disturbance which resulted. Continuing the record of experience with this new remedy for epilepsy, we append the following testimony from Dr. T. W. Shaw, of Macon, Mo., to whom, in a consultation, we commended a trial of the borax as a *dernier* resort in an intractable case. The record begins July 14th, 1880, as follows:

"It is now eight days since I began the use of fifteen-grain doses of soda bi-borate with my patient." The record for August 13th is this: "Under the borax treatment his health declined very much; he lost his appetite, and his digestion was very much impaired; indeed, he got unable to walk about. Since I quit it, his general

health and appearance have improved very much, but his ailment (epilepsia) is about as it was six months ago."

An intervening letter of July 28th states that the "violent paroxysms have ceased in the last eight days, in the last three there being only slight twitchings in one of the hands." The seizures had recurred daily before this time.

The intervention of a malarial complication was the immediate cause of the suspension of the borax in this case.

CONSTITUENTS OF TOBACCO SMOKE.—M. M. G. Le Bon and G. Noel (*Brit. Med. Jour.*) have extracted from tobacco smoke (1) *prussic acid*; (2) an *alkaloid*, having an agreeable odor, but dangerous to breathe and as poisonous as nicotine—one-twentieth of a grain destroying animal life; (3) *aromatic principles as yet undetermined*, which contribute with the above mentioned alkaloid to give to tobacco its characteristic odor. They say that tobacco smoke owes the toxic properties attributed hitherto solely to the nicotine contained in it, as much to these other substances they have discovered in it. The alkaloid pointed out seems to be identical with the compound known as collidine.

ERGOT FOR DIABETES INSEPIDUS.—Dr. E. W. Saunders, following the suggestion of Dr. Pepper, of Philadelphia, reports in a recent number of the *St. Louis Courier of Medicine*, the cure with this drug of a woman, aged 53 years, who had this disease for two years, passing from eight to ten quarts, per diem, of urine of the sp. g. of 1004. One drachm doses of the fluid extract, three times a day, effected, in three months, a complete recovery. Another confirmation of the view that diabetes is a vasomotor neurosis.—ED.

THE MAGNET FOR PARALYSIS.—Nothnagel, in *Virchow's Archives*, May, 1880, relates the case of a recurring paralysis in the right hand of a man paralyzed in the same member six years previous by a lightning stroke, from which he had once recovered and remained well six years. Three months after the recurrence of the second stroke, Nothnagel, after failing with the usual therapeutic measures, brought back sensation and motion in three-quarters of an hour, perfecting the motility and sensibility in the part by subsequent applications, so that the recovery was complete in a few days, and the patient resumed work.

Dr. Wm. A. Hammond, in *N. Y. Med. Jour.*, for Nov., cites "two cases of chorea which were completely cured in a few minutes; also one of speechless hemiplegia, which entirely recovered, so far as Dr. H. could perceive, but had another attack in a few days and died comatose; and an aphasic and hemiplegic patient, in whom sensibility was restored," though no further improvement followed the employment of the magnet.

DUBOISINE IN EXOPHTHALMIC GOITRE.—In this disease, Dujardin-Beaumetz administers, hypodermically, a neutral sulphate of this agent, dissolved in a little cherry laural water. The dose he uses is a fourth of a millegramme, cautiously increased, suspended for a few days every week, and not too long continued, even interruptedly. By this means he has obtained, in two cases, great diminution of palpitation and vascular throbbing. The toxic effects of the duboisine, which appear after a few days administration, resemble those of belladonna. The cumulative tendency of duboisine must not be lost sight of in its employment.

ELECTRIZATION OF THE INTERIOR OF THE STOMACH.—In cases of intractable vomiting, M. Leven practices electrization of the interior of the stomach, by means of a wire conducted to the stomach through an œsophageal tube. He has succeeded in relieving cases of vomiting in fifteen applications, which no other means had succeeded in stopping.

CHLORIDE OF AMMONIUM FOR GOITRE.—Dr. Stephens, of Quebec, reports seven cases of goitre cured by this. Six were girls under twenty years of age, and one a married woman, aged forty. The dose given was ten grains, three times a day, the tumors entirely disappearing at the end of three months.—*Can. Jour. of Med. Science.*

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### IDIOSYNCRACIES OF CONSTITUTION AND TOXIC EFFECTS OF NEUROTIC THERAPEUTIC AGENTS.

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TWO DEATHS FROM THE CONTINUED USE OF THIRTY-GRAIN DOSES OF CHLORAL.—In the discussion on "Non-Restraint," before the Society of German Alienists, Dr. Stulcr gave the particulars of two cases of sudden death



from chloral. In one case thirty grain (gr. xxx.) had been given, with some intermissions, every day for three months. In the other, the same quantity for a week. He thought that the quality of the preparation may have had something to do with the result, and now he used Liebreich's Chloral, the effects of which were much pleasanter. Nasse advised the gentlemen present to use only Liebreich's preparation, made by Schering, Berlin.

[Dr H. H. Kane reports a number of such cases in a recent issue of the *New York Medical Record*.—Ed.]

PAIN IN THE EARS AND TENSOR TYMPANI SPASM CAUSED BY STRYCHNIA.—The patient had central scotoma of the left eye and confusion of vision. He was given biniodide of mercury and strychnia. Strychnia was continued in pills 1-16 gr. three times a day, but caused pain in the head and ears, which came at the close of the meal with a beating sensation for a few minutes, against the membrane of the ear, likely due to the spasmodic twitchings of the tensor tympani muscles. It ceased with the discontinuance of the drug.—Dr. C. R. Agnew.—*Archiv. Otol.*

AN INSTANCE of serious syncope from inflation of the middle ear by Politzer's method, and of loss of hearing from a kiss upon the ear, are reported in a recent number of the *Archives of Otolaryngology*. Truly, we are becoming a nervously sensitive people.

## ANATOMY AND PHYSIOLOGY.

PATH OF THE INHIBITORY AND SENSORY FIBRES.—Researches of Dr. Isaac Ott.—From an interesting article in the *New York Medical Journal*, for January, 1880, we briefly trace Dr. Ott's methods, and record the result of his experimental researches in cats: The animals were securely bound, chloroformed, tracheotomized (for the purpose of maintaining the necessary artificial respiration), their heads strongly flexed and the tissues over the posterior occipito-atloid ligament, longitudinally divided and held apart. The membrane of the same region was cleared of all tissues, and then divided, and, after this, the different parts of the medulla were cut. Asorbent cotton promptly checked the bleeding. The sphincter ani was then

examined as to the presence or absence of rythm. When Dr. Ott divided the posterior pyramids and the restiform bodies no rythm appeared, but when he cut the posterior pyramids, restiform bodies and the intermediate columns, then a rythm was noted; when he divided the gray matter transversely no rythm occurred, but a faint rythm was noted when the anterior pyramids were partly divided and the remainder crushed.

Before he reached the anterior pyramids, in making transverse sections of the intermediate columns, rythm took place.

As the fibres of the intermediate columns (and by "intermediate" he means what are usually called "lateral" columns) do not decussate, he infers that some inhibitory fibres pass down the intermediate (lateral) columns without decussating. The bi-lateral system of inhibitory fibres, then, arises in the optic thalami, passes down the crura cerebri, pons Varolii and anterior pyramids, and into the opposite lateral columns of the spinal cord through the internal half of the middle third of these columns, while others, instead of decussating, pass through the intermediate and directly into the lateral columns of the same side.

In regard to the sensory fibres, the same animals and methods were used. To irritate the skin he placed a Du Bois inductorium and needle-electrodes on the posterior extremities. Schiff ("La Pupille considérée comme Esthésiomètre," Paris, 1875), discovered that, if we irritate or pinch the skin in *some* carnivora, the pupil dilates, if the cervical sympathetic and cerebrum are intact. Section of the cervical sympathetic, cerebrum and cord at the medulla, also abolishes pupillary contractility. In the spinal cord, the fibres calling out the pupil-dilatation run in the lateral columns, and not in the gray matter as held by Schiff. By sections of the medulla oblongata, Dr. Ott proves that sensory fibres run in certain parts of it, and, as the pupil dilates in a reflex manner, that efferent fibres also run in the same parts.

The absence of the dilatation would prove either that no sensory fibres existed, or that the efferent were divided. When the posterior pyramids or restiform bodies are divided transversely, and the skin of the posterior extremities is irritated, the pupil dilates. If the gray matter is divided in a transverse manner then dilatation also ensues

upon irritation of the posterior extremities. If everything is divided except the posterior pyramid, restiform body, and a small posterior portion of the intermediate columns is left, then, upon irritation, a dilatation ensues. If the posterior pyramids and restiform bodies are divided, and the anterior pyramids partly divided and partly crushed, then, upon irritation of the posterior extremities, a dilatation of the pupil ensues. These facts demonstrate that sensory and efferent fibres run in the intermediate columns of the medulla oblongata. The fibres of respiration also run in the same columns, for this act ceased only after division of the intermediate columns.

THE NERVES WHICH PRESIDE OVER THE GLYCOGENIE FUNCTION OF THE LIVER.—The secretion of sugar by the liver, as demonstrated by Claude Bernard, is produced under the influence of a reflex of which the centripetal paths follow the pneumogastric and the centrifugal paths pass by the syment of the cord between the sixth cervical and the first dorsal pair. In fact, the section of the cord at this level, suppressed the usual effects of puncture of the fourth ventricle upon the glycogenic function. In the pneumogastric, M. Laffont has recognized that excitation of the central end of the depressed nerve of Lyon determined the increase of the saccharine secretion to the same degree as the excitation of the pneumogastric itself. In the centrifugal paths, he here determined the important role of the first dorsal pair, the section of which suspends the formation of sugar by the liver, even when the depressor nerve is excited. The first dorsal pair, as foreseen by Claude Bernard, acts as a vaso-dilator nerve; for the excitation of the peripheric end produces a lowering of arterial tension in the abdomen.—*L'Union Medicale*, May 4, 1880. C/

AN EXTINCT REPTILE WITH A SECOND SPINAL BRAIN.—Prof. Marsh, in his interesting paper on the "Dimensions of the Brain and Spinal Cord in some extinct Reptiles," read at the last meeting of the National Academy of Sciences, states that he found in a certain species of extinct reptile nearly thirty feet long, in the *sacral region a posterior brain, eight times as large as the encephalon* at the other end, while the brain proper was scarcely as large as that of an ordinary dog. The sacrum inclosing this brain was composed of four well ossified and very strong. This phenomena was not due to disease for he found the cavity in other younger saurians.

THE PHYSIOLOGICAL ACTION OF ERGOT.—M. Peton, of Paris, injected ergotine into the base of a rabbit's ears. In five or six minutes after, they commenced to be anæmic, and the pupils to dilate; this gradually increased, and lasted several hours. Its intensity and duration varied according to the dose of ergot given. He next divided the sympathetic in the neck of a rabbit, and dilation of the vessels and contraction of the pupil on the corresponding side followed as usual. The ergot was then injected as in the before-mentioned experiments; its administration was followed by anæmiation of the ear and dilation of the pupil.

THE ERECTILE NERVES LOCAL ANTAGONISM, ETC.—Nikolsky.—*Med. and Surg. Rep.*—In boys, according to the author, there are two nerves of erection; one issues from the first, the other from the second sacral foramen. The upper is more slender, the lower thicker, and they soon unite to mingle with the nerves constituting the hypogastric plexus. The first sacral ganglion of the great sympathetic sends to the plexus a small branch. On this slender filament we may observe small ganglia and nerve cells.

CONJECTURAL FUNCTIONS OF THE SUPERFICIAL CEREBRAL LAMINÆ.—Dr. E. C. Mann in a paper in the *Va. Med. Monthly* for May, "On the Brain, in Health and Disease," thinks that the superficial laminæ of the convolutions of the hemispheres, disseminate the impression of general sensibility, and that the deeper layers containing the larger multipolar ganglion cells originate motor impulses.

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## THE NEW ENGLAND PSYCHOLOGICAL SOCIETY

Held its annual meeting at the Hotel Brunswick, in Boston, December 14th, 1880, Vice-President Dr. A. M. Shew in the chair. The following officers were chosen for the ensuing year: President, A. M. Shew, M. D., Superintendent of the Insane Asylum at Middletown, Conn.; Vice-President, H. P. Stearns, M. D., Sup't of the Hartford Retreat for the Insane, Hartford, Conn.; Secretary and Treasurer, H. M. Quinby, M. D., Sup't of the Worcester Insane Asylum, Worcester, Mass.; Drs. Folson, Channing, Nims, Hallock and Tarbell were admitted to Active Membership, and D. Hack Tuke was made an Honorary Member.

Dr. Ira Russell, of Wichendon, Mass., read a paper on "Melancholia," (which will appear in the next number of this Journal.) An animated and interesting discussion followed, in which nearly all the members present participated. Dr. Edgar Park, Sup't of the Insane Asylum at Worcester, spoke in opposition to the "Use of Opium in the Treatment of Melancholia and other forms of Insanity." Dr. T. M. Fisher related the case of a gentleman who became melancholic after the death of a daughter, by consumption. A few days after her death, while engaged in his usual business—writing at his desk—he had a sudden sensation in his head, as though he had received a blow upon it. He immediately became very much depressed, imagined he had committed a great sin; in that he had thought it was well his daughter had died, inasmuch as she had consumption and could not get well. He dwelt upon that subject continually, could not sleep, and contemplated suicide. He was placed in charge of Dr. Russell, and cared for in his 'Family Home,' and, after several months, died suddenly from an apoplectic attack. Dr. Fisher regarded the melancholia as due to an organic disease of the brain.

Dr. Earle had found opium, in many instances of great value. He could not tell, before a trial, what particular cases would be benefitted by it.

Dr Bancroft had found the influence of travel upon melancholics, before the disease had become fixed, quite beneficial. Dr. Jelly's paper upon "Moral Insanity," not being fully prepared, was deferred until the next meeting. Dr. H. P. Stearns read a paper upon the "Proper Care of Certain Classes of the Insane."

The Society voted to meet at the same place on the second Tuesday of March next.

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## PROCEEDINGS OF THE THIRD CONGRESS OF THE ITALIAN PHRENIATRIC SOCIETY.

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*Held in Reggio D'Emilia, from 23d to 29th September, 1880.*

We are indebted to the distinguished editors of the *Gazette del Frenocomio di Reggio*, for a copy of that valuable periodical, devoted exclusively to the report of the proceedings of the Third Congress of the Phreniatric Society of Italy. To say that we have read it with most lively interest

and with warm sympathy, falls very far short of an adequate expression of our appreciation of its varied, instructive and charming contents. It must be utterly impossible for any lover of national freedom, and of free scientific discussion, to rise from the perusal of this document of 130 large octavo pages, without a glowing feeling of admiration of the progress which new-born Italy is making in the walks of science and practical benevolence. In the name and on the behalf of the freemen of the Great Valley of the Father of Waters, and of all America, we tender to our illustrious fellow workers of glorious *Italia Resorta*, across the ocean which now joins, rather than separates, the two worlds, our most hearty congratulations. Had we from them no other proofs of the eminence attained by them in the range of medical science, than the present record of their work in the department of alienism and neurology, this would suffice to convince us that they are destined yet to stand—if, indeed, they do not already hold the position—in the very front rank of the grand army of successful workers and fearless thinkers.

The proceedings of the Congress covered seven entire days, without suspension even on an obtruding Sunday; but we must not overlook the fact, that on that day they were engaged in a very pious work—the inauguration of a statute, commemorative of a departed brother, whose name cannot have been forgotten by our readers.

Candor, however, obliges us to add that the evening was devoted to certain "*scientific demonstrations*," which would comport rather awkwardly with the religious sentiments of their brethren on this side of the Atlantic; but why should our puritan conscience be the standard of their liberty? It is some relief to us to know that our friend, *Dr. Gray*, of *Utica*, was in attendance as an "*honorary member*." We shall hope to learn from him that he did not forego the opportunity of intimating his disapproval of the Italian mode of "*Keeping Holy the Sabbath Day*."

We shall now proceed to present to our readers a summary, as concise as possible, of the proceedings.

The first day, Thursday, 23d Sept., was devoted to inaugural proceedings, and was abundantly prolific in very eloquent speeches, which we would have much pleasure in presenting *in extenso*, but our available space forbids the indulgence. We therefore confine ourselves to a few passages from the speech of *Senator Verga*, which,

we doubt not, will find a sympathizing response from all the patrons of our JOURNAL.

ABSTRACT FROM THE SPEECH OF SENATOR VERGA DELIVERED AT THE OPENING OF THE CONGRESS.

"I would here note the great difference which was manifest between the testimonials of admiration, veneration and affection, truly solemn, extraordinary and impressive, rendered by the whole Italian nation, yea, by the whole world, to a king branded with anathema, and the calm, modest, and I may well say, official honors, which a few days after marked the demise of a holder of the keys of both heaven and hell,—a judge of both the living and the dead, when, imprisoned in his own ideas, rather than in the apartments in which he had shut himself up, he closed a life fortunate through a very long reign, and not deprived of those pomps which are dear to Italy. \* \* \* \* \*

It is not necessary that I should call to your remembrance, learned colleagues, what was the state of Phreniatric science through all that time in which men who arrogated to themselves the representation and the prerogatives of Divinity, measured out with despotic hand, to knee-bent humanity, liberty, knowledge, and at length both thought and speech, how long and irksome a sojourn did our science pass in the beclouded and desolated fields of animism, when a scientific and philosophic physician, who dared to utter a word against the dominant superstition, was not sure to end,—or rather was sure not to end his days in his own bed!

I do not think that I exaggerate when I say that if to-day we have a Phreniatric Society in Italy, in which the most daring explorers of that Arctic sea, the human brain, love to enrol their names,—a society distasteful no doubt to the over timid and orthodox and periodically celebrating its congress, without dread of opposition or animosity; for this our gratitude is due to that grand king who has saturated Italy with liberty and to the son who faithfully follows in the footprints of his father.

Permit, then, that I, free from all suspicion of blind enthusiasm for monarchy and jealous as any other ever has been, as to the independence of our solidarity, exclaim in your presence: Glory eternal to Victor Emmanuel, new type of a constitutional king, who, with equal zeal has promoted civil and democratic profession! Why do the municipalities of Italy to-day rivalously strive to erect to him monuments worthy of his merits, when no monument can ever equal that which he himself prepared with his own hands in Italy, restored by him to unity, liberty and strength,—this Italy, greedy for light, and panting to resume her place at the head of European civilization!"

After the delivery of the various speeches the Congress set energetically to work.

*Dr. Lolli*, of Imola, was elected President for the third time; *Prof. Tamburini* was elected Vice-President; *Prof. Morselli*, Secretary; and *Drs. Seppilli* and *Riva*, Vice-Secretaries. The *emeritus* Secretary of the Society, *Dr. Biffi*, read the *moral* and *economic* report of the Society

for the last triennial period, in which he made an affective commemoration of the members who had been removed by death in that time, reminding the assembly of the genius and virtues of the lamented *Bonacossa, Girolami, Berti, Ponsa, Palmerini, Corbetta* and *Federi*; and of the honorary members, *Roller* and *Fleming*.

#### INAUGURATION OF THE PHRENIATRIC EXPOSITION.

The opening of the Congress having been concluded, the members, accompanied by the Deputy *Fornaciari*, the Syndic and various physicians and gentlemen of the city proceeded to visit the *Phreniatric Exposition* arranged in the hall of the theatre *Arioste*.

This exposition, initiated by the Directors or our asylum, is the first yet offered in Italy, and, considering that it has only been a first attempt, it has been quite successful. The principal asylums of Italy, in addition to our own, contributed to the specimens of industry submitted; besides, numerous manufactures of scientific instruments.\*

We have great pleasure in transcribing from this report, the following passage:

"*Dr. Gray*, of *Utica*, presented to the Italian Phreniatric Society, of which he is an honorary member, an *Album* containing about 30 specimens of photography, representing various sections of diseased medulla spinalis, and some others of diseased lung. These were of about 200 diameters enlargement. The committee does not presume to speak of their merits, leaving this duty to one who is more competent to the task, the illustrious *Prof. Golgi*. The views are now in the Exposition, and will remain, according to custom, in the Asylum of St. Lazarus (Reggio)."

#### SECOND SESSION—Friday, 24th September, A. M.

The subject of the "*Modifications of the Statute and Regulations of the Society*" was considered (Relator, *Biffi*).

*Drs. Michetti, Morselli, Grilli, Capelli, Tarchini, Meneucci, Fiordispini, Verga* and *Biffi* took part in the discussion.

The amendment of the 14th article, that the number of honorary members shall not exceed 12, who may be admitted to the Congress, &c., &c., was adopted.

#### AFTERNOON SITTING.

1st. *Morselli* read a communication on "The Geographic Distribution of Insanity, Epilepsy and Idiocy in Italy."

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\* A minute description of the articles exhibited is given in the special report of the visiting committee, appointed by the President.



2d. Verga read a communication on the "*Causes of Insanity in Italy*," deriving his statistics from the asylum reports of 1877, from which the following proportions appeared to result: \*Pellagra, 8.88 per cent.; diseases of foetal life, or presently after birth, 7.77; epilepsy, 6.68; sexual disturbances, 6.94; alcoholism, 3.92; venereal abuses, 3.73.

3d. *Venturi* read a communication on "*Pallagrous Typhus*," in which he endeavored to distinguish the several forms ordinarily comprehended under this peculiar designation.

4th. *Riva* communicated the results of his researches, in the asylum of *Reggio*, on the "Course of the Temperature in *Progressive Paralysis*" (Paresis).

5th. *Seppilli* communicated his researches in the asylum of *Reggio*, on "*Reflex Tendon in the Insane*."

6th. *Morselli* read a communication from *Dr. Frigerio*, on the "*Anomalies of the Cerebral Vessels in the Insane*."

In the evening, Prof. Lazzaretti and eight other members met to consider the basis of an *Italian Society of Legal Medicine*; and Prof. *Tambassia* was requested to frame the project of a statute.

### THIRD SESSION—25th September.

The president named a committee to visit the House of Mendicity.

*Grilli* reported on the subject of "*Moral Insanity*," proposed at the last Congress, in which he sought to reconcile the diverse opinions on the question.

A discussion followed, in which *Verga*, *Tamassia*, *Fior-dispini*, *Ioselli*, *Morselli* and *Grilli* took part. Verga took occasion to relate, briefly, a communication sent to him by Dr. Galli, on the "*Analytico-Comparative Study of Moral Fools and Delinquents*." The subject was postponed till the afternoon sitting.

### AFTERNOON SITTING.

The discussion on "*Moral Insanity*," was resumed. The President, finally, in view of the conflicting opinions expressed, named a committee, charged with the studying of the conclusions of Dr. *Grilli's* paper.

2d. *Franzolini* related the first case of *Oophorectomy* executed in Italy, which had resulted successfully.

\*The above figures account for only 38 per cent. of the total cases. They may be approximately correct as far as they go, but they cover too small an areato be regarded as of any scientific or practical value.

3d. *Verga* gave a lecture on the "Relations of Phreniatría with Jurisprudence," showing what should be the position of the medical alienist before the Tribunals.

4th. *Verga* made a communication on the "Relation Between Magnetic Perturbations and the Disturbances of the Insane."

5th. *Seppilli*, on behalf of *Dr. Riva*, reported the results of researches in the Asylum of Reggio, on the use of "*Hyosciamin* in Mental Alienations."

6th. *Raggi* communicated his "*Citometric Studies* on the Insane;" he also called attention to the therapeutic value of intra-peritoneal *transfusion of blood* in cases of mental alienation connected with oligæmia.

#### FOURTH SESSION—26th September.

This day was wholly dedicated, by the members of the Congress, to the Asylum of *St. Lazarus*. It was divided into three parts:

1st. The inauguration of the bust of *Carlo Livi*.

2d. Visit to the Asylum.

3d. Scientific demonstrations.

We dare not venture on anything like a full reproduction of the proceedings of this glorious day, rendered, as it must have become, forever dear to the memory of all who had the privilege of participating in its solemnities. The eulogistic tributes offered to the memory of the lamented *Carlo Livi* were exquisite specimens of Italian oratory, well calculated to show that the present race are no degenerate descendants of the men of the Ciceronic age.

Before proceeding to the spot where the veiled statue of *Livi* awaited the procession of the Congress and the multitude of the magnates and citizens of Reggio, the Medical Superintendent and his assistant received the members of the Congress in the hall of *Gallani*. On their entrance, the orchestra of the asylum intoned the Royal Hymn, after which the alumni of the choral school sang a hymn, written expressly for the occasion by the talented poet, *U. Poggi*.

We deeply wish that we could render into English, without detriment to its native beauty and pathos, this simple and most touching little melody. We venture to present it as nearly true to the original as our defective knowledge of the musical Italian tongue enables us to give it. Perhaps some reader, gifted with poetic genius and

fine taste, will favor THE ALIENIST AND NEUROLOGIST with a version which will be more pleasing; if so, the present delinquent pledges himself to be very lenient in criticism:

CHOIR OF PATIENTS.

Light immortal of the soul  
 Why hidest thou thyself,  
 As the sun veiled by autumnal mists,  
 Or by the dense cloud, whence  
 The horrid lightning darts?  
 Ah! without this were mortals not  
 Already but too prone to stray?  
 Why, as a harp that fails to give response  
 To the hand of the skilled master,  
 Does the troubled brain, that grand  
 But fragile instrument of the hidden sense,  
 Give forth only discordant utterances?  
 Was, then, this deep misery  
 Decreed for us in Heaven?  
 Decreed in Heaven? No, no, mysterious  
 Are the ways of nature;  
 The strength of thought,  
 Will thought's weakness succor,—  
 For, well can love and art  
 Retune the now disordered cords;  
 And soon from every part  
 Will the sun every cloud disperse,  
 Then, in the brightness of his rays serene,  
 Will the soul again rejoice.

The assembled multitude having reached the tomb of *Livi*, listened with deep interest to the eloquent speeches there delivered; but of these we can offer only limited excerpts.

ABSTRACT FROM THE SPEECH OF PROF. TAMBURINI, ON THE INAUGURATION  
 OF THE BUST OF CARLO LIVI.

" You, gentlemen, assembling here to-day, may find us, perhaps, proud, of our institution; but it is not of our own work that we are boastful: it is only of that of men who were, to many of you, friends and companions in the battles of life; to us, venerated masters; to their afflicted patients deprived of reason, guides, comforters and preservers; to our science, a lustre and an honor, and to this institution its very life and soul. To it they dedicated the best part of their existence; for it they spent their most vital forces, and in the fervor of those conflicts inevitable to every potent initiative, and in that inexorable devotion with which they labored for the good of others, they fell prematurely in the heat of the action, as warriors who, in the mingling of the hosts and on the brink of victory, fall fighting, facing the foe.

The rendering of honor to these masters of science and self-abnegation is a sacred duty, and at the same time a comfort and an

encouragement to those who place faith in their example. Such an example is the most potent spur to good work; it is the guide, the inspirer and the director of every good deed. The images of these great ones kindle that resistless flame which impels men to the accomplishment of great enterprises; the memory of the grandeur of these spirits elevates the level of every character, and blunts every ignoble sense and thought. They speak to us from the tomb a powerful language, which searches out the most sensitive fibres of our hearts.

In three names, illustrious colleagues, are summed up in the history of this institution: *Antonio Galloni, Ignazio Zani, Carlo Livi*. On the 16th of April, 1871, through the exertions of Zani, was celebrated the solemn dedication of the bust of the illustrious founder of this hospice. On the 10th of September, 1876, *Livi* inaugurated that of the spirited reformer of the asylum. The inauguration of the marble which recalls the dear paternal image of our beloved master, has been reserved for this day, which is rendered more solemn and sacred by your presence; and our tribute of affection and veneration is thus rendered yet more solemn, as in your minds the remembrance of this day's visit to our asylum will ever be conjoined with that of the homage rendered by you to science and to the heart of him who was, whether as master or companion, the object of affection and admiration to us all."

It is with profound regret that we are prevented by our limited space from reproducing the whole of *Prof. Tamburini's* brilliant and touching oration, honorable alike to his head and his heart. We must, however, present to our readers his pathetic and very appropriate peroration:

Gentlemen:—In the press of feelings which in this solemn moment throng in upon my mind, and in the deep commotion which I feel from the lustre shed on this asylum by your presence, permit me to conclude by rehearsing the words uttered by *Livi* before the bust of *Zani*: "the memory of him is not perpetuated alone on this simple marble, for it lives, and will ever live, engraved on the hearts of us all, so long as genius and virtue shall be worshipped in this land."

After *Tamburini* the Deputy *Fornaciari*, President of the Administration of the Asylum, spoke as follows:

"I thank you, illustrious gentlemen and gentle ladies, for having assembled here to do honor to the memory of one who, by his wise counsel and his great exertions, did so much for this institution. I could add nothing to what has been so exquisitely well said of the scientific merits of *Carlo Livi* by his worthy pupil and successor; yet I will speak to you of his works for the benefit of this asylum, because, in the visit which you will presently make, you will have frequent occasions for verifying with your own eyes, the results of his intelligent activity, for everything here speaks of him.

It may suffice that I merely say, that from him came the word of order for the reforms introduced into this asylum in the past ten years. It was he who, in 1870, said to us, "*Galloni* left the Asylum of Saint Lazarus on a par with the science of his time;" it must now be brought up to the

science of to-day. And it fell to him—Oh! the vicissitude of human affairs—to accomplish a good part of those reforms; but he could not see the fruits, for an immature death snatched him from us!

That which *Livi* did for this asylum was not the work of his mind alone, but even more of his heart, which was ever prompt and open to everything lovely and good.

Love of science, love of his country and his family, a most lively affection for his friends and his patients—these were the sentiments which had sovereign sway in the mind of *Livi*, while a conscious dignity beamed from his ever bright and cheery aspect.

Well of him may I say with the poet—

“Oh, if the world had known the head he had,  
Much as it praises, it would praise him still more.”

Pardon to me the belief, that while we gratefully and in silent commotion stand here admiring the dear resemblance of *Carlo Livi*, his lovely spirit hovers, as a benignant genius, over his dearly beloved asylum.

We find it impossible to devote to the important proceedings of the remaining sessions of this congress, that measure of space which they so well merit, and which we would so gladly give to them. Suffice it to say every day was redundant in able and valuable work, the details of which well indicated the position reached by Italian alienists in the specialty so richly adorned by them.

As was naturally to be expected, such a gathering of congenial spirits must not break up without a memorial festivity; and sure enough they had one, on the last evening of their assemblings. It went off as a splendid “flow of reason, and feast of soul.” The most conspicuous as certainly the most versatile, of the contributors to the enjoyments of the night was the venerable *Senator Verga*, whose genius would seem to be as multilateral as his humor is playful and quaint. This genial old soul treated his auditors to a poem of 79 stanzas, and two culminators, mainly devoted to the praises of Italian wines, in the recital of which he certainly “suited the action to the words” with a grace and a gusto which might have afforded texts to a dozen of our American temperance spouters, for a brace of hundreds of deep-toned lectures. But be it entreated of our gifted declaimer, that they will not believe *Senator Verga* drank one-quarter so much as he pretended to do.

We shall now close our notice of the auspicious proceedings of this third congress of Italian alienists with an English rendering of the closing verses of *Senator Verga's* post-prandial poetic effusion:

Years weigh me down, my chest is dead tired.  
Quite dry is my throat, and short is my breath:  
Fast then, and freely.

Send the wine 'round the board,  
But to me offer only the juice  
Of our own Reggian grapes.

Drink we then, without any fear,  
*Sine pondere et sine mensura,*  
Long life to our hosts. [drinks]

How delicious! My thirst is clean gone,  
And I feel all my inwards refreshed,  
I'm quite a new man.

All my forces now marshal afresh;  
Ah! sure wine's the right sort of milk  
To nourish old age.

Drink it off, and fear not a bit  
That your veins will ever inflame,  
Or pylorus or liver.

Why! I, too, am a—what must I say?—  
*Doctor futurus*, a flower in the bud;  
I'll be grand when I bloom.

Science now has made solid the fact,  
That it's quite a mistake to believe  
Alcohol stimulates.

From of yore being hostile to life,  
It has turned a new leaf, and reads now:  
*Potio antiphlogistica.*

It is always in order to drink  
To the honor and glory of Congress,  
And science, and so forth.

Also, principally, as every one knows,  
It behooves your jolly president  
To drink to *omnibus*. [drinks]

Drink we all, to king Humbert and Galivardi,  
Both, with us sympathetic, we know;  
Yes, both and all three.

*Vivant quoque vesanorum  
Curatores, atque illorum  
Bene resta hospitia.*

*Vesani ipsi vivant, unde  
Stat et alitur abunde  
Nostra congregatio.*

Long life to all, both Jews and Christians,  
And to those poor Mussulmans,  
*Ter quaterque miseri!*

Whose law, profane and tyrannous, forbids  
Wine's refreshing cup to touch their lips.

PERSONAL TESTIMONY TO THE CHARACTER OF THE PAINS OF LOCOMOTOR ATAXIA.—Xavier Aubryet is just dead of locomotor ataxia, and thus he spoke of its fulgurant pains: It seemed as if a torturer had him in a rack and was dislocating his joints. At other times, he felt himself being scalped; again, being run through a rolling mill. "Death will only unscrew me," he used to say.

Heinrich Hein also suffered and died of locomotor ataxia, which may account somewhat, perhaps, for the melancholy and satirical style of his writings. Thus he speaks of his fate in one of his sonnets:

"Die Welt war mir nur eine Marter-Kammer, Wo man mich bei den Füßen aufgehangen, und mir gezwickt den Leib mit glühenden Zangen und eingeklemmt in enge Eisen-Klammer."

[To dwell in a chamber of torture my lot, where I'm hung and swung by my feet, my body was twitched with tongs red-hot, and squeezed with an iron cleat.]—J. T. W. —*Cin. Lancet and Clinic*, Jan. 15, 1881.

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## ❖❖❖ EDITORIALS. ❖❖❖

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RETROSPECT AND FORECAST.—As we look back over the old year and note the rapid progress made, and general interest taken in neurological research, and look forward to the year before us, the dawn of a new era, in which the study of neurology shall be universally regarded as indispensable to successful general medicine, seems to us clearly discernible.

Neural pathology must soon largely supplement and, in many instances, supplant the vascular, in general medical thought, just as the more scientific vascular took the place of the cruder humoral pathology. The blood is the life, but its vitality and movement depends largely upon the healthy states of the nervous system, especially of the vaso-motor.

Though in the organism the blood and the nerves are inter-related and mentally dependant, the study of nerve influences and resultant vascular activities, largely constitute the phenomena of disease as we discern them in the living organism, whilst their sequences are mainly revealed in gross changes of structure, and the cadaver shows us the ultimate results, of precedent nerve and vascular activity, as well as those changes called chemical, which take place when the influences of the nervous system are wholly withdrawn. The nervous system is also the life of the organism.

Instead of a few brief paragraphs, pages ought to be given, and we may some day devote them to an elaboration of the relation of the nervous system to general medicine. But we content ourselves now with the above hint on the tendency of the times, and from it point a moral namely: Take the ALIENIST AND NEUROLOGIST and place yourself in rapport with the progress of the age in practical medicine.

OOPHORECTOMY FOR NEUROPATHIC CONDITIONS.—Probably no graver subject ever presented to the thoughtful and maturely experienced surgical mind than that of the kind and degree of neuropathic disorder, which ought to constitute an absolute justification and demand for ovarian exsection, and it may safely be asserted that no one without a wide range of observation of the neuropathic affections of women should attempt a decision of this important question in surgery.

Given a diseased ovary and a conjointly existing cerebral or cerebro-spinal affection, and it is quite natural for the quick and vigorous young mind to conclude that Battey's operation is the thing demanded, yet a maturer view of the field of neuropathology, based on a wider range of observation, would reveal the fact always well to keep in view when the surgical unsexing of a woman is contemplated, that a majority of all women afflicted with serious cerebral or cerebro-spinal disease, like the opposite sex when similarly affected, inherit a neuropathic diathesis, which cannot be exterminated by surgical methods applied to the present generation. Had a Battey spayed the mothers and castrated the fathers of many of the present generation, it would have been a good, but rather radical prophylaxis of much of the neuropathic misery now in the land; but, unfortunately, such a procedure cannot be made retroactive.

It must be borne in mind, that where the neuropathic diathesis is marked, and a cerebro-mental disease supervenes, it is quite common to find associated morbid states of the generative organs, which disappear *pari passu* with the cure of the cerebral condition. Coincident gangliopathic states exist beyond the ovaries and uterines which the knife cannot reach, and which improves as the general nerve tone recovers. The enlarged ovary and displaced fundus; the prolapsed, or congested "os;" the badly acting heart, the tender spine, and other *foci* of morbid expression, often disappear, when the head derangement departs, under constitutional methods.

The extirpation of one *locus morbi*, while it sometimes causes the manifestation of a remote affection to cease, is also sometimes followed by the selection of another peripheral spot in which the diathetic condition displays its morbid activity.

While diseased ovaries may act as a peripheral excitant of central morbid states, they are quite as often the sequences of central conditions, begun in the economy before the beginning of ovarian evolution, or latent only until the beginning of the ovarian development.

A few years ago, the great number of insane persons, male and female, who were given to masturbation, led to the conclusion that this vice was the main cause of a great majority of cases, but more diligent inquiry showed that many insane persons became masturbators after the fact of insanity.



Batley's operation bids fair to become sufficiently popular with our young surgeons, who think a woman has no rights which ambitious surgery is bound to respect, to demonstrate that all the cerebral disorders of women are not ovarian reflexes, and when enough ovaries are extirpated to exhibit the fallacy of the reigning folly, there is fear that, for lack of wise discrimination in the selection of cases, a really grand operation in certain cases may fall into disrepute as cliterodectomy has fallen.

Against Oophorectomy, *per se*, we make no protest, but, from a neurological standpoint, we enjoin caution as to the determination of its necessity for the relief of remote neuropathic disorders, which may or may not be reflex, the exact determination of which, like the many other doubtful questions in medical science, requires neurological and psychiatric observation and experience. Oophorectomy is here not a question of operative skill, but of propriety based on experience, just as is in so many instances, that of the excision of a tumor.

In Italy, a phreniatric surgeon operates in a case of reflected neuropathy with success; in America, a skillful and experienced gynecologist (Sims) operates and fails, while a well-known alienist (Mann) cures the same patient by well-directed neuro and hæmic therapeutics.

The gynecologist found sufficient ovarian degeneration to justify the operation, yet the co-existent disease of the central nervous system persisted until cured in the usual way. Here, both the surgeon and the neurologist seem to have acted well their respective parts. Perhaps each without the other had failed.

A patient has hysteria. Uterine medications fail. The surgeon thinks of Batley's procedure, proposes it, and proceeds to perform it (Dr. Israel). He cuts through the abdominal walls, but leaves the ovaries untouched. As a sequence, the patient recovers. Does the therapeutic influence here proceed from below, upwards; or from above, downwards?

A patient has catalepsy. The ovaries are removed, and the patient also—to the dead-house. Peritonitis is found, but the searching lens of the microscope detects no ovarian disease. Simply because a cataleptic has ovaries, must she lose them? If so, why let the equally guiltless testicles escape in male cataleptics? Skeene, of New York, in sixteen insane women, finds twelve in whom the ovaries are diseased. Putzel, of the same city, makes ninety post-mortems in a lunatic asylum, and cannot recall a single case in which the ovaries were morbidly affected.

Let us beware that to the already too numerous manias we do not add another Oophoromania, or Oophorectomania, and forget that a woman has a cerebrum and spinal cord as well as ovaries.

CEREBRAL LOCALIZATION AND VICARIOUS FUNCTION.—Since Wigan first discussed the duality of the mind: and Gall, Brown-Sequard and Schroder Van der Kolk subsequently called attention to the dual character of the brain and its functions, the march of physiological and clinical discovery has brought us face to face with two psychological questions, namely, that of *cerebral localization*, which the weight of clinical demonstration seems to have affirmatively settled, and the question of *vicarious power under certain circumstances of disease*, of different portions of the brain having normally, special, distinct and limited function. This question is also receiving an affirmative clinical answer, and while its confirmation as a

physiological fact would seem essential to the removal of some of the obstructions which appear to block the pathway of the waxing idea of cerebral localization. its demonstration will certainly prove further confirmatory of the new and ably sustained views of the localizers. Readers of this Journal cannot have failed to note with what endorsement this new tenet of cerebro physiology is meeting among leaders of neurological research and thought. In the October number *Seppilli* invokes it, and in the present issue *Monte* appeals to it, in explanation of phenomena otherwise inexplicable if cerebral localization be true, of which the accumulated and daily augmenting clinical and physiological confirmations leave little room for doubt, notwithstanding the apparently formidable objections (at first sight) interposed to the tenability of the doctrine by Brown-Sequard and Goltz. The incontestable demonstration of psycho-motor centers in the cerebrum involves the confirmation of vicarious function, of direct as well as decussating fibres in the medulla, of the reparability of damaged brain tissue, as well as the direct proof, to explain away all objections, and these proofs, already confirmed in isolated instances, appear to be yet more abundantly forthcoming.

DR. ISAAC OTT ON PARALYSIS AND ANÆSTHESIA.—Last year, Dr. Isaac Ott stated, in the *Journal of Physiology* (Vol. II., No. 1), that he had found that *inhibitory fibres*, coming from the *optic thalami*, *ran into the lateral columns* of the spinal cord. In conjunction with Dr. R. M. Smith (*Journal of Nervous and Mental Diseases*, for the same year), he showed that *the lower limit of the decussation* of these fibres is about *the nib of the calamus scriptorius*, and that they descend in the *internal half of the middle third of the lateral columns* of the spinal cord. In the *New York Medical Journal* (for January, *vide infra*), he has also shown that they partly run in the *intermediate columns of the medulla oblongata*, and then down the lateral spinal columns of the same side, and partly in the anterior pyramid into the lateral columns of the opposite side. His latter experiments show that *inhibitory fibres* run in the anterior part of the *pons Varolii*, and that *the point of decussation* at the nib of the calamus is only the lowest point (see Jan., 1880, number of the *New York Med. Jour.*). If a longitudinal section of the cord and medulla is made at this point, no rythm of the sphincter ani occurs, which should be the result if the decussation took place only there. In the *Detroit Lancet* (for March, 1880), he has shown how cerebral irritation can be transmitted to the anterior extremity of the opposite side, even when a hemi-section of the *pons* is made nearly up to its junction with the *cerebral peduncle*, confirming the histological observation, that certain fibres decussate higher up in the pons. He refers to "recent facts observed by Brown-Sequard" (*L'Archives de Physiologi*, 1879) tending to prove that a decussation of the inhibitory fibres begins to take place at the entrance of the cerebral peduncles into the *pons Varolii*. In the May, 1880, number of the *New York Med. Jour.*, he explains that his paper, on *paralysis and anæsthesia—a preliminary note*, is written to show that the preceding facts observed by Brown-Sequard are explainable by the *thalamal inhibition and decussation* of the inhibitory fibres referred to as coming from the optic thalami and running into the lateral columns. Confirmatory reference is made by Dr. Ott to another and earlier paper of his own in the *Philadelphia Medical Times* of 1878. Reference is made to

Brown-Sequard's experiment of cutting transversely the right half of the cerebrum at the level of the *corpora-striata* in a kitten causing slight opposite lateral paralysis, while a *second transverse hemisection of the cerebrum at the level of the tubercula quadrigemina* considerably increased the crossed paralysis; a third section traversing the cerebrum and upper part of the mesocephalon caused the paralysis to cease on the left side and voluntary movements to return nearly in the same degree as before the lesion, whilst the extremities on the right side were paralyzed.

This series of facts Dr. Ott explains as follows:

"The first two lesions call into activity centers of inhibition in the optic thalami, and perhaps in the tubercula quadrigemina, which, through the decussation of their inhibitory fibres, produce a paralysis upon the opposite side; but the moment the section is made behind the centers, and divides in great part the fibres coming from them, then the voluntary movements regain their freedom on the opposite side. The paralysis ensuing on the side of the last section is also explained by centers of inhibition exerting a direct activity on that side. When, in another experiment, Brown-Sequard cut transversely the external three fourths of the right half of the mesocephalon immediately back of the middle cerebellar peduncle, then the animal was paralyzed on the right side, and could move the left voluntarily. He then cut the posterior columns of the spinal cord, when there was notable hyperæsthesia of the right posterior extremity, while the left was anæsthetic. When he divided the left half of the spinal cord, then the right foot, which had been hyperæsthetic, became anæsthetic, and the left, which had been anæsthetic became hyperæsthetic. When he cut the posterior columns—in fact, I fear, the lateral columns, in part—he cut off the inhibition coming from above, and left the foot hyperæsthetic. The anæsthesia after section of the cord I explain by the irritation of sensory nerves calling into activity the optic inhibition above, which expressed its activity upon the opposite side. When he divided the left half of the cord, then the inhibition of the opposite optic thalamus was removed, and the anæsthetic foot became hyperæsthetic. But, by the cord-section, sensory fibres were again irritated, which called into activity the spinal inhibitory centers, which exerted their force through the intact lateral column upon the right side, which side became anæsthetic."

"That this hyperæsthesia and paralysis are produced by thalamic inhibition is still further proved by the following experiment by Brown-Sequard: when he cut the entire mass of fibres coming from the anterior pyramid, together with the lateral column of the bulb on the right side, then the hyperæsthesia was on the side of section, because the section was below the inhibitory decussation; but the section, irritating sensory nerves, called into activity the optic thalamus above, which produced anæsthesia upon the opposite side. This paralysis on the side of section was due to the section calling into activity inhibitory centers seated at that place. But when a left spinal hemisection was made, then the left foot became hyperæsthetic, and the right foot, previously hyperæsthetic, became anæsthetic by sensory irritation calling into action the spinal inhibitory centers. He also relates several experiments to show that the excitability of a great part of one-half of the encephalon and of the

cervical spinal cord of the opposite side is reduced under the influence of a transverse section of a lateral half of the dorso-lumbar segment of the cord, or of the sciatic. These facts are easily explained by the section and sensory irritation calling the thalamus into activity, which inhibits the irritability of the opposite side. It may be objected, that section of the left half of the spinal cord should call the right thalamus into activity by the sensory decussation, but the section includes mainly the fibres already decussated from the opposite side, whilst it includes but a very small number of those originating on the side of section, crossing over to the opposite side, and ascending the cord."

On the same principle Dr. Ott would explain the fact of injections of water on one side relieving pain on the opposite side of the body. All these facts lead to the conclusion that apoplectic effusion into the optic thalamus or its neighborhood causes paralysis and anaesthesia on the opposite side in the case of man, by irritating the centers of inhibition, and restraining movements and the transmission of sensation. If this theory is true, then the treatment of apoplexy would resolve itself into the use of agents which have the power of paralyzing this inhibition, or of exciting antagonistic centers to overcome it. Atropia and bleeding have been found to overcome the inhibition in some cases. Charcot's recent observations upon anaesthesia may perhaps find their elucidation in these views.

ESQUIROL ON THE CURABILITY OF INSANITY.—"We must not confound relapses with new attacks of insanity." \* \* \* "Physicians know well that those who have had fevers, the phlegmasiae etc., are more than others, exposed to a recurrence of these maladies, because an organ, once affected, is from this circumstance, more disposed than another to be affected anew in the same manner. We give not the title of relapse to a recurrence of these maladies. Why give it to a new attack of insanity? Do not all hospital physicians see frequently returning to their wards, the same individual and for the same causes? \* \* \* The insane are subject to relapse. They are perhaps more exposed than other classes of patients, because the exciting causes of insanity are numerous, and appear everywhere and in all the circumstances of life, because the crises of this malady are less complete and because individuals who have been cured are less cautious in guarding themselves against accidents which have produced their former attacks. But because men are imprudent ought we to censure the impotence of medicine."

THE TRI-STATES MEDICAL SOCIETY.—Taking a Pullman Palace Car one evening in November, we went to sleep at this end of the Ohio and Mississippi line and awoke near the other, soon thereafter to find ourself among the good people of Louisville, and in the midst of that wide-awake organization of the West, the Tri-States Medical Society, then in session there. This excellent association is in a most flourishing condition, certainly better supported than any other medical society in the West. The profession of five States, in fact, contributes to its maintenance, for by resolution, the cities of St. Louis and Cincinnati are within its territory, and the next meeting is to be held in the former city. It ought to be called the *Five-States* Medical Society. The *personnel* of the members

in attendance and the high character of the papers, give such interest and value to the meetings of this society as to make it both profitable and desirable to all who can find opportunity to attend them. We hope the profession of St. Louis will warmly welcome and cordially entertain this growing and useful society when it comes here next year.

Dr. A. M. Owen, of Evansville, Ind., is the next president and Dr. Prince, of Jacksonville, Ills., and Charleton, of Seymour, Ind., are the Vice-Presidents; while that most efficient officer, Dr. G. W. Burton, of Mitchell, Ind., remains Secretary. Dr. Fairbrother, of East St. Louis, has been made chairman of the committee of arrangements. A most judicious selection.

**THE INHALATION DOSE OF NITRITE OF AMYL.**—That the generally prescribed dose of amyl nitrite is often too small for aborting convulsion has probably become apparent to many who have had occasion to employ this agent since Weir Mitchell called attention to its powers in this direction, and this fact will cause the instructive clinical contribution of Dr. Maragliano, which appears in this issue of the *ALIENIST AND NEUROLOGIST*, to be read with interest. We may here record the fact as a confirmation of the comparative innocuousness of this agent to adults, that we gave to an old negro, during an obstinate asthmatic paroxysm, eight different inhalations, of one drachm each, during a period of fifty-two hours, without any perceptible effect on the health of the patient, or upon his paroxysms—this was in 1874. The patient continued under our treatment several years afterwards, but we never tried the amyl nitrite on him again, or upon any other asthmatic.

It is probably only in convulsion, due to precursory cerebral capillary spasm and anæmia, that nitrite of amyl is of avail.

**THE MANAGEMENT OF INSANITY IN HOSPITALS** —The nature of insanity and the essentials of its cure are such that all the influences, social, medical moral and dietetic about the patient, should be regulated and controlled by the chief physician. An alienist, who justly values his reputation or feels responsible for the welfare of his patients, will not consent to take charge of an institution for the treatment of the insane, directly governed by a divided authority. The timely displacement of an obnoxious and detrimental attendant, and the opportune regulation of all the surroundings of the patient, are equally as important remedial agents as the medication the patient receives. This does not preclude all the essentials to a good hospital, namely: ample medical assistance, a steward, matron, numerous attendants, consulting physicians and authorized visitors; but it does preclude such a double-headed and divided authority as would sink a ship in a storm, defeat an army in battle, or break a business enterprise.

**THE GUY'S HOSPITAL MUDDLE** indicates the ill effects of too much non-medical management for medical institutions.

If there had been a responsible medical head to that time-honored hospital, having the inalienable prerogative of nominating subordinate executive officers, such as every medical institution of the kind should have, Dr. Samuel Habershon and Mr. Cooper Foster had doubtless been there still, instead of having to vacate their positions of senior physician and surgeon in order that a matron might remain. There is but one

right way to conduct hospitals, and this medical men should insist upon, viz: that competent medical men should be selected as chiefs of them, and the chiefs, once determined upon, should then be allowed to choose their subordinates.

**THE PERIPHERAL METHOD OF TREATING TABES DORSALIS; QUERY?—**How are Languenbeck's cures of Tabes Dorsalis, by stretching the sciatic and crural nerves, to be explained?

*The Uramic Theory.*—In the *Maryland Medical Journal* for September, Dr. J. R. Quinan, of Baltimore, begins the record of a paper read before the Clinical Society of Maryland, on the above subject, which will at least, set the reader to thinking. Referring to the vertigo, headache, amaurosis, coma and convulsions, the author says, if it can be shown that urea can exist in the circulation without the cerebral symptoms and *per contra*, "we are bound by all the principles of sound logic to abandon the theory as wholly disproved," and the author then proceeds to produce his proof. This is not, however, a good premise since on any kinds of poison may exist in the blood in certain limited quantities without producing its characteristic symptoms and the maximum of tolerance is higher in some organizations than it is in others.

**THE INDEX CATALOGUE** of the library of the Surgeon General's office is a compilation which has earned for Surgeon J. S. Billings, U. S. A., the indefatigable compiler, the plaudits and gratitude of the government and the medical profession. Vol. 1, 1880 now before us contains 1,000 pages, 9,090 names of authors, representing 14,429 volumes and monographs and 34,604 titles of articles in periodicals. The work done thus far in this direction at the Surgeon General's office is of inestimable value to medical and sanitary science—directly to the medical profession, indirectly to the people of the country, and is as legitimate a demand upon the public treasury as that made for the building of needed light-houses, coast defense or the improvement of navigable rivers.

We hope the work so well begun and thus far so well done, may progress to a satisfactory completion. No cry of retrenchment and reform should be permitted to cripple this good work.

**THE SAINT LOUIS MEDICAL SOCIETY**, at its late annual meeting, honored itself by honoring Prof. Henry T. Mudd with its suffrages, for the presidency. Dr. Mudd is one of the growing surgeons of the city, with a mind alive to the progress of the times. He entertained and instructed the Society with some interesting practical remarks on the enticing topic of the day—cerebral localization—indicative of his appreciation of the manifest destiny of medicine to run into neurological channels, and, like the sensible man that he is, showing no disposition to prevent it.

President Mudd regularly reads the **ALIENIST AND NEUROLOGIST**.

**CAPTAIN EADS' SHIP RAILWAY.**—The *Scientific American*, of Nov. 3d, 1880, contains illustrations of Captain Eads' proposed railway for transporting ships across the Isthmus of Panama, as Lesseps proposes by his canal plan, at a much less cost for construction. This is a bold and ingenious project, and Captain Eads is confident of success. The engravings in the *Scientific American* show also the appliances for transferring the ships from the water to the rail.

ASSISTANT HOSPITAL PHYSICIANS AND THE JOURNAL.—While most of the superintendents of hospitals for the insane on this continent subscribe for THE ALIENIST AND NEUROLOGIST, and while a goodly number of assistant physicians take it, all of them do not. We should like to have them all on our subscription list, and they *ought to be there*.

The psychiatric department of this Journal is practical, and presents features not elsewhere found.

### OBITUARIES.

DR. WILLIAM LAUDER LINDSAY.—In the death of this well-known physician, Scotland has lost a remarkable man; the profession, a bright fellow; the asylum circle of Great Britain, an able, but eccentric colleague.

Dr. Lindsay was, for a quarter of a century, physician to the Royal Murray Asylum, at Perth, and he served one year as Assistant Physician to Dr. W. A. F. Brown, at the Crichton Asylum, at Dumfries, Scotland.

He graduated at the University of Edinburgh, in 1852, gaining the college prize for his thesis, which was on lichens. He soon after attracted much attention by his researches on the communicability of cholera from the dejections of patients, having been the first to prove, by experiments on animals, that this scourge could be transmitted in this way: In 1856 he published a popular history of British Lichens, and in 1859 received the Neill prize of the Royal Society of Edinburgh for original investigation into the structure of these plants.

Though his literary labors were various the best efforts of his latter years were expended on psychological subjects. In 1875 he wrote on the subject of the "*Superannuation of Officers of British Hospitals for the Insane, in which he advocated the duty and expediency of allowing pensions for the servants of every grade in lunatic asylums.*" In 1877, he published a voluminous and well-known work on *Mind in the Lower Animals*. In 1878, he wrote on *The Theory and Practice of Non-Restraint in the Treatment of the Insane*, "pointing out with force and cheeriness the shallowness of the principle, 'that mechanical restraint should never be used in treating the insane,' and showed that in some cases it is preferable to manual restraint, and, indeed, could not be omitted, save to the prejudice of the patient," while he acknowledged that such cases were rare, and that he himself had seldom recourse to restraint or seclusion in any form. He was energetic, studious, eccentric, possessed of large perceptive and intellectual powers, good practical common sense, moral courage and a kind heart, which made him a good hospital superintendent and physician. After a year or more of failing health, he died at Edinburgh on the 24th of last Nov. leaving behind him the records of a useful life, and a character without a blot or stain upon it.

All that we have here said in his praise, and more, appears in the obituary pages of the leading medical journal of his native city.

DEATH OF DR. EDWARD SEGUIN.—This renowned and good American physician died on the twenty-eight of last October, at a time when he

was about to realize the fruition of his hopes in regard to the accomplishment of the work nearest to his heart,—the higher education of the idiotic and the feeble minded. But a few months before his demise, he wrote us a letter betraying all the ardor of his more youthful days, respecting his favorite work, in which he announced his readiness to receive and train one of our little imbecile patients, concerning whom we had previously written to him, and manifesting, therein, the warmth of feeling of the true philanthropist.

Dr. Seguin was on the verge of the allotted "three score and ten" when he finished his work, and he worked in his chosen field of labor to the last. His name was not on the retired list when he died. But a short time ago, before the International Medical Congress at Amsterdam, (as the pages of this Journal have borne testimony) the world heard him pleading for and illustrating the "psycho-physiological education of the idiot hand," showing the benefits of his efforts in practical results, not to be gainsaid, training the backward brain into increased activity about its psycho-motor hand center by cultivating tactile sensibility and peripheral motility, thereby augmenting cerebral activity. Just as the actor may bring to mind much of the feeling of the person he characterizes by vehement attitudes and gestures, so may the imbecile be taught something of the thought which accompanies action by being trained to act. In addition to the gratitude the profession owes the departed for his contributions to, and elaborations of, clinical thermometry, it will be grateful to him for having brought out mental force where he found it abeyant and dormant, but his Chief Monument will be in the hearts of those thousands of unfortunate parents in the land, among whose children may be found the slow and feeble-minded. It is there that his name is enshrined. They will remember him, and their lips will bless him, and the institutions for these weak ones, now standing or being erected by a broad philanthropy, which faithfully cares for its helpless ones, all over this great land, will remain the everlasting monuments to his usefulness and fidelity in a cause for which he so nobly and unselfishly lived. Dr. Seguin was a zealous advocate for the universal establishment of the Metric System, and the American Medical Association yielded to his influence in recommending its adoption.

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## ❖❖REVIEW DEPARTMENT.❖❖

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HOSPITALS FOR THE INSANE.\*—No one is better qualified by long observation and mature study of this subject than the distinguished practical alienist, who now gives to the American and English public a second greatly enlarged and improved edition of this instructive work on a pre-eminently important and practical subject.

The present time, when so much interest is being taken in psychiatry and in the management of the insane, is most opportune for the appearance of such a book, emanating from such a worthy source. We confidently commend it to such as take an interest in the real welfare of the insane. To physicians who have the care of the insane, or who may contemplate taking charge of them, to building committees, trustees of hospitals and philanthropists having at heart the welfare of these unfortunates and interested in their protection, we most heartily commend this book.

It is a book, likewise, which ought to be in the hands of every legislative committeeman charged with the duty of visiting and inspecting public charities, and especially with the responsible duty of passing upon the propriety of appropriations for State hospitals for the insane, or of providing for their management. If the happiness of our households depends upon the proper management of our own homes, the welfare, safety and comfort of the insane depends infinitely more upon the manner in which *their* homes are constructed, arranged and managed. Upon the construction and organization of these institutions depends the minimization of personal and mechanical restraint, so much desired by every friend of the insane, and it is due to the vast improvements made in their home-like and cheerful aspects, coupled with their durability and security of construction, that the practical application of non-restraint has, in a large measure, become possible in this country and abroad. In the days of "Bedlam," a manacled patient had a weapon in his chained hands, which often menaced his "keeper," and inspired in the latter that fear of personal safety, which led to neglect and violence. The days of dungeons, manacles and chains in State asylums have passed away; thanks to the improved construction of our hospitals for the insane, and especially to the author of this excellent book for his contribution to the good work in this country.

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\*On the construction, organization and general management of; with some remarks on insanity and its treatment, by Thomas S. Kirkbride, M. D., LL. D., Physician-in-Chief and Superintendent of the Pennsylvania Hospital for the Insane at Philadelphia; late President of the Association of Superintendents of American Institutions for the Insane; Honorary Member of the British Medico-Psychological Association, etc., etc. Second edition, with revisions, additions and new illustrations. Published by Lippincott & Co., Philadelphia and London.

The author, in the work before us, places, in its true light, the good work of that philanthropic, useful and zealous organization, the Association of Medical Superintendents on the Organization of Hospitals for the Insane, so much misunderstood in some quarters, and gives them the great credit due them for their steady efforts in the direction of the amelioration of the condition of the insane in this country during the last three decades. It is to be greatly regretted that architects and legislative bodies have not heeded the recommendations of this eminently practical body of American alienists.

It is gratifying to that national professional pride, so common and reasonable in us as a body of physicians, to learn what may readily be seen in this book, that we have no reason to be ashamed of our bretheren, who are and have been leading members of this organization, for the part they have taken in promoting the progress of psychiatry in this country, while at the same time, in some localities, a comparison of what has been done by legislatures and municipal corporations in the direction of caring for the insane, with what has been so unanimously and plainly recommended, does not redound to the honor or glory of our sovereign political rulers.

The book contains thirty-seven well written chapters, an appendix embracing the propositions of the association of superintendents referred to and twenty-three illustrations. Some of the special features of this excellent book shall find place in future numbers of this journal.

The author has our thanks for the copy sent us and we acknowledge our indebtedness to him for much valuable, practical information derived, years ago, from the first edition of the book. Its quiet and beneficent influence has been felt for a quarter of a century in its appropriate channel, like that of the resistless, noiseless river in its course, and it will continue to be appreciated after the soul that projected it shall have gone out forever to the unknown sea of the great hereafter.

THE PROBLEMS OF INSANITY.\*—Maudsley has arraigned the inductive psychologists for taking no notice, in the study of mind, of the anomalous mental displays of idiots and lunatics, and Bacon insisted on a more accurate study of the character and secret dispositions of *particular* men; but this writer, starting out with the simile of the sun in eclipse, asserts "that we can *best* study the mysteries of the mind when its functions are eclipsed by disease."

We think Maudsley is more nearly correct than Beard. The revelations of natural mind are not to be overlooked, nor are intensified or perverted displays of particular mental faculties under the influence of disease to be ignored in the study of psycho-physiology; but a *total eclipse* of the mind by disease would put that entity or aggregated function in a very unfavorable *light* (excuse the bull), we mean attitude for scientific study; nevertheless, Dr. Beard's idea, barring the rather exaggerated simile, is one upon which alienists have long insisted, that the development in *extremis* of certain mental powers under the (hyperæmic) uncommon stimulus of active cerebral disease, often enables those who, with ample

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\*Dr. Geo. M. Beard, recent paper read before the N. Y. Medico-Legal Society.

opportunities to observe morbid mental phenomena, coupled with a fair study of normal mental physiology and an average capacity for philosophic observation and deduction, to know more about the insane as well as the sane mind, than such as do not have opportunity for practically studying insanity.

The author exclaims with much enthusiasm and considerable truth: "psychology is the *one* science of the future," and proceeds to assert that "the initial problem of insanity is now to define it." "Aye, there's the rub!" And with less caution than Blandford or Maudsley, proceeds to define it as it often before has been defined, both in similar and different phraseology, as "a disease of the brain, in which mental co-ordination is seriously impaired."

But the definition does not define. When Forbes Winslow defined insanity to be "a disordered state of psychical co-ordinating power," he, more wisely than Dr. Beard, restricted the descriptive formula to "a kind of psychical chorea," in which the patient is not under the influence of any fixed or transient delusion." But Dr Beard thinks this definition is sufficient to cover all that has been meant, or is meant, or ever can be meant by those who use the term insanity.

This expression displays a vague conceptions of the wide range in degree and variety of the mental aberrations caused by disease and vaguer notions of the views of others on this subject. This address appear like something done "in haste" to be followed, we fear, by the usual sequel, namely, "repentance at leisure."

This definition is certainly elastic enough to include many psychical states which cannot reasonably be called insanity, while it does not stretch sufficiently to include those states of undoubted mental aberration, in which, so far as may be discerned, co-existing with ordinarily *good*, if not perfect mental *coordination*, an undoubted disharmony of the individual with his surroundings and natural self is displayed in abnormal impulses and conduct. Mind utters itself in action no less emphatically and unmistakably than it does in speech, in *morbid action too*, sometimes, which the intellect does not approve, or cannot restrain. Jno. Locke was not altogether wrong, but only partly in error, in the assertion that the insane do not so much reason incorrectly, as from wrong premises they reach false conclusions. The perverted perception of the insane as often distorts their reasoning powers as the morbid action of the latter modifies and warps the former.

The necessity of a supplemental definition of the word "*seriously*," as qualifying mental inco-ordination, which the author confesses, "is used in a relative sense," also vitiates this definition, and it must go the way of its predecessors as a fruitless attempt at a faultlessly comprehensive definition of mental aberration.

The author very properly keeps the beaten track as to the disease and essential psychical elements, but very inconsistently, in his supplemental paper, insists ("Reply to Criticisms on the Problems of Insanity," with "Remarks on the Gosling Will Case," p. 15) that "the diagnosis of insanity, in court, should be purely psychological and not physical," thus knocking

away this essential foundation, and logically taking the subject out of the hands of physicians, for what have medical men to do with mental derangement before the courts in the capacity of experts, if its phenomena are not to be pronounced upon in their relation to disease involving the brain? If it were otherwise, the metaphysicians, divines and lawyers, rather than physicians, would be the persons to pronounce upon the nature and quality of certain mental actions and "our whole system of lunacy jurisprudence," as one of Dr. B.'s legal friends thinks, "should be reconstructed."

Dr. Beard takes no note of change of character without adequate external cause, "introduced many years ago into the definition of insanity by Andrew Combe, and accepted with emphasis by Isaac Ray, the American *Orryphæus* in forensic psychiatry. No definition of this disorder can even approximate completeness that omits this change in the natural mode of thought, feeling or action, *without adequate external cause, and having disease for its basis*. There must be not only a psychical change, but that change must place the person out of harmony with his natural character and usual surroundings.

The reader will be surprised to learn that a grave problem, to properly discuss which might reasonably have occupied a whole evening, is compassed in two pages and that the other problems introduced occupy like and less space, namely, the general *causation* and *increasing frequency*, of the disease, a study of southern negroes, the real or apparent *increase* among the poorer classes, the difficult one of *diagnosis*, temporary home of detention, general effects of the *present system of treating* the insane philosophy of opposition to progress in lunacy administration, errors in statistics of insanity, proportion of recoveries, *the future of insanity*, influences that may tend to check the ratio of increase, the omniscient philosophy applied to the subject, etc.

It is not surprising that some of the very gravest problems of insanity should have been overlooked by the writer and that opposition (?) to progress in lunacy administration should be *seriously* discussed when, at this day, nobody is opposed to progress in this direction, no intelligent physician, at least, or that such ill-considered statements as the following should find a place in this address: "Those who oppose the scientific study of insanity, and the wise and just supervision of the insane in asylums and out of them are strong in numbers, resources, and in every phase of influence; they have everything on their side except justice, and they will conquer." This is a discouraging admission for a reformer in psychiatry to make. It smacks of dyspepsia, melancholia, neurasthenia. The reformer should never say "truth crushed to earth stays crushed, but rather "it will rise, again; the eternal years of God are hers," or something of similar tenor nor utter such paradoxes as "the higher truth is always the under dog in the fight." Now, truth is never a dog, and her conflict with error can, in no sense, be likened to a dog-fight.

Many of the subjects introduced in this paper are too cursorily discussed to merit extended analysis or criticism. To criticize them as cursorily as they have been presented would be unjust, and we forbear. He speaks of simple isolation, as "shutting the insane indoors and out of the sight

of friends," as an error, while every novice knows how beneficial is separation and removal from friends in many cases, while simple isolation now-a-days is never employed as a method of treatment even in the most exceptional instances, though it is sometimes briefly resorted to during periods of high excitement, when *isolated liberty* is not practicable. Dr. Beard doubtless judges of the practice throughout the United States by the practice in some of the machine institutions of New York City, in one of which a superintendent burnt 300 restraint appliances. (It is quite probable that in that institution a good deal of simple and culpable isolation was employed. He denounces, but does not explain on what therapeutic principle, those mental calmatives which, given at night, conserve the exhausting and exhausted cerebral powers, just as they control hysteria, delirium tremens, etc., with universal professional approbation. He calls them *sleep-forcing* agents, as if to so designate them, were an argument against their use, though they as likely induce sleep by salutary cerebral tranquilization as by any conceivably detrimental and certainly not demonstrable *coercing*. He denounces as "so obvious as to need no discussion," the treating of curable and incurable cases of insanity together, yet the subject *has* been discussed by the wisest minds in psychiatry in this country and Europe, and the practice prevails almost universally as the result of observation and experience, that these classes may be treated well together, the object of their separation, wherever it is practiced, being, mainly, a pecuniary consideration. The fact being that, while the welfare of the chronic cases is not especially promoted by association with acute insanity, the latter are much benefited by the salutary influence of certain chronic *habitudes* of the hospital, whose early disease has left behind only a mental scar, so to speak, the presence of which is often overshadowed and concealed by general habits of rational conduct and speech.

Dr. Beard is capable of better things, and has neither done himself, the causes of psychiatry in this country, nor his many subjects justice in the essays before us.

He could take most of the problems in this essay *seriatim*, and upon each exhaust the limits of an ordinary length essay without over treating the subjects.

**MAPLE HALL MYSTERY.**—This book is a little romance, gotten up in a most attractive style, and has already had a vast sale in the east, as one of a series of modern fiction. The author, Enrique Parmer, a St. Louis attorney, and a writer of excellent repute, has stepped outside of the beaten track of fiction in this conception of his, and give us a treat of the wonderful in romance, fact, philosophy and poetic thought, at once refreshing and profitable. The little book is brimful of rhetoric, logic plot and clothed with imagery as beautiful, any day, as the list as Bret Harte pictures, or Nathaniel Hawthorne wierd conceptions. It is a very master-piece of prose writting.

The scene opens in the mountains of Maryland, passes west to St. Louis, thence to New Orleans, Europe and New York. St. Louis receives a large share of the book. The work is not in the least sensational, but is founded on fact—many of the actors having but recently passed away.

The book will do good. It teaches self-reliance, honesty and virtue; it lays open the weaknesses of men and exposes the innermost thought and impulse of humanity. The author has already had an offer to have the romance dramatised. It would undoubtedly make a sensation on the stage. We should like, if it were in place in these pages, to introduce some of the interesting scenes and characters of this really meritorious book. The author's reflections, too, are not less interesting than his characters, incidents and plot. We can do no better thing than to advise our readers to buy the book. The cost is so insignificant and the pages so fresh and good.

"DIET FOR THE SICK" is No. 1 of P. Morton & Co.'s Pocket Series. The book is published by Dr. J. W. Holland, Prof. Mat. Med. and Therapeut. in the University of Louisville, and is a useful book for invalids and all who have the care of the sick. It is written in a clear and brief style and its dietary precepts are such as the most enlightened physicians generally desire to put in practice in the sick-room.

RALPH WALSH'S PHYSICIANS' LEDGER AND CALL BOOK.—To the physician to whom "time is money;" Ralph Walsh's "Handy Ledger" and his "Call Book and Tablet," are, like his "Retrospect of American Medicine and Surgery," difficult to dispense with. The ledger and the tablet are old friends of ours, having saved us many a dollar, which, in the press of business, had we relied on former time methods of medical account keeping, would have been unnoted and lost. To achieve substantial success in the practice of medicine, fidelity to one's account books is as essential as attention to one's text books, and a ready method of making complete memoranda of services, with the least possible tax upon one's time is a desideratum of great value.—For sale by the St. Louis Book & News Company and the Hugh R. Hildreth Printing Company.

HOW VIVISECTION CONCERNS EVERY CITIZEN. *By Lewis S. Pilcher, M. D.*—The arguments of the paper are convincing. The author's attitude may be gleaned from the following quotations:

"When the famous Realdo Colombo, of Padua, in the sixteenth century, ceased to be content with the traditions of the schools, and with theories based upon the study of dead tissue, and proceeded to inspect living phenomena as presented in animals, the circulation of the blood through the lungs was discovered, and the first and great step taken which was to lead up to the grand demonstration by a pupil of the same school—William Harvey—fifty years later, of the general systematic circulation.

"Nothing can be more easy than to becloud the subject of vivisection with sentimentalism, and to raise about it such a popular feeling, that unmerited obloquy may be made to cling about the name. Wherever the use of the knife and the infliction of pain are involved, it is quite natural for an undue sentiment to reach such a height with regard to the act, that it finds feeble vent in the use of such words as 'cutting up alive,' 'torturing and tormenting unoffending brutes,' etc. The feeling manifested by the ancient Egyptians, which caused them to assail with imprecations, and even with stones, the operator who made the incision in a dead body through which the embalming spices were to be introduced, though thereby they were enabled to preserve the bodies of their dead, was quite akin

to that which now prompts the antivivisectionist in the abuse which he heaps upon the scientific experimenter, the result of whose observations may be of incalculable value to the human race."

SECTION OF THE INFRA-ORBITAL AND INFERIOR DENTAL NERVES FOR NEURALGIA.\*—"The operations usually performed in the section of these nerves are tedious and difficult, and result in deformity. Those which the author describes and has repeatedly performed, are easily and rapidly executed and leave no deformity."

One feature almost as commendable as the distinguished author's skill is the omission of that usually long list of society attachments and ponderous suffixes which we so often see now-a-days attached even to the smallest papers, like enormous tails to small kites.—We think the eminent President of the American Medical Association and professor of surgical anatomy in the St. Louis Medical College sets a good example.

THE CONDITIONS OF THE UNIPOLAR STIMULATION IN PHYSIOLOGY AND THERAPEUTICS.—By A. De Watteville, assistant physician to the hospital for Epilepsy and Paralysis, Regent's Park.—Reprinted from *Brain*, part IX. The following are the author's conclusions, all, we regret to say, we have now space for:

"Though the unipolar method does not fulfill therapeutically the ambition of its promoters, its adoption has led to most valuable results in the field of diagnosis, and I am the more anxious to recognize Brenner's durable services in this respect that I have been led to stand in antagonism to his other views. Electro-diagnosis, difficult enough on this unipolar system, is impossible on the bipolar method; with which in the living subject we would get *four* electrodes to the same nerve; and the bitterest foes of the new system have been obliged to adopt it, though not always with the best grace.<sup>1</sup> A clear conception of the physical conditions of unipolar stimulation is, however, necessary for the rational application of electrical tests, and I am not without hope that the previous remarks may clear up certain obscurities hitherto prevalent.<sup>2</sup>

The question of a possible influence of the direction of the current is intimately bound up with that of the density of the current. On this point, again, much useless discussion has been expended. Supposing it is desired to estimate how much electricity passes through the sciatic nerve at a point half-way between the gluteal region to the popliteal space when the electrodes with a current of say twenty millevolts<sup>3</sup> are placed in these positions, all we have to do is to divide the diameter x specific resistance of the nerve by the diameter x mean specific resistance of the

tissues of the thigh. The equation  $\frac{D \times R \times X}{D^1 \times R^1 \times 20} \parallel$  gives us the result.

\*By John T. Hodgen, M. D., Missouri. Extracted from the transactions of the American Medical Association.

1 Cf. Benedikt, 'Elektrotherapie,' second Ed. 1874.

2 When the electrode is placed on the abductor indicis near its insertion, I find that A. C. C.—K. C. C. The same phenomenon occurs in other parts, and is explainable on the assumption that a virtual kathode occurs at a point of the muscle more excitable than the point of application of the anode.

3 De Watteville, 'Practical Introduction to Medical Electricity,' chap. i. A current of 20 millivolts would be given here by about 40 Daniells.

Assuming  $D^1 = 12$  and  $R^1 = 5$ , when  $D$  and  $R$  are taken at unity this would give us 1-60th of the current as passing through the nerve at the point, which is a very high estimate. This rough calculation gives us at least as accurate quantitative results as the galvanometric experiments of Burkhardt<sup>4</sup> and others, since the unknown relation between the resistance of the piece of nerve included between the needles and that of the galvanometer used can hardly be determined. This is not the place to discuss the arguments adduced by those who uphold the influence of the direction of the current on the various tissues.<sup>5</sup> They cannot escape the objections deduced from the fact of a paripolar direction of the current in the nerve and from the great diffusion of the current in the interpolar region: it is only within a short radius of each electrode that the density is sufficiently great to produce physiological effect. And though the therapeutical conditions drawn from the electrotonic influence of the poles are not justified, it has yet to be shown that the very weak current which traverse the tissues at a distance from the electrodes have any curative power, apart from any demonstratable physiological action. This supposition is, of course, within the range of possibility; but the partisans of direction influence have hitherto produced no proof that their results do not depend from the relative position of the poles. The discussion of this point will be best deferred to another occasion.

If these pages, as I hope, have shaken one of the many *Idola Specus* of electro-therapeutics, and disposed of some of the loose talk and thought so rife in the literature of the subject, my object is fulfilled.

**GASTRIC ULCER**—*Brief review of a series of cases reported by Dr. VanDerveer, of Albany, N. Y.*—Dr. VanDerveer has recently issued, in pamphlet form, a report of ten cases of gastric ulcer, one case of malignant ulcer of the stomach and two cases of perforating ulcer of the jejunum. The report is that of a close and practiced observer, concise in its arrangements, and practical in its points, and, consequently, a valuable addition to the literature of the subject. One may delve amongst the fine spun theory of the books, pour over a prolix differentiation, con page after page of treatment, and, as a result, may possibly have the grand sum total of his knowledge augmented by the process; nevertheless, it is the practical common sense method—for common sense should have a place in medicine as well as elsewhere—of collecting carefully-observed cases, giving histories complete and concise, together with the treatment and the results, that yields most of our available information. The value of reports, thus made, can hardly be over-estimated. In all of these cases, where it was obtainable, a clear history has been presented, together with the treatment employed. The special and practical points brought out in the report may be presented logically about as follows: (1) Occasional latency of the disease, with consequent meagerness of symptoms, the disorder not being suspected till the catastrophe of sudden death and a *post-mortem* revealed the facts. (2) Difficulty, at times, of making a correct diagnosis. (3) Under the head of aetiology may be cited: (a) influence of heredity; (b) influence of old injuries in region of the

4 "Die polare Methode," *Deutsches Archiv*, 1872.

5 Onimus and Legros, *Traite d'Electricite medicale*, Paris, 1872.



stomach; (c) excessive use of stimulants and tobacco; (d) influence of sex, which, in the cases reported, is apparently reversed, the proportion of males to females being as 7 to 3.

(4) *Diagnosis*.—The most prominent symptoms are pain, vomiting sudden hæmorrhage, disturbances of digestion and alteration of stomach secretions. The pain, which must be present to warrant a diagnosis of gastric ulcer, has been described as wearing, burning, boring in character, rarely (Brinton) sharp and lancinating. A fixed pain in a certain part of the back is also a quite constant symptom. As between gastric ulcer and cancer of the stomach, the main distinctions are: (a) In ulcer, copious hæmorrhages are much the more frequent, while in cancer they are smaller and of a coffee-ground character, and more or less mixed with mucons; (b) cachexia and failure of strength appear much earlier in cancer than in ulcer; (c) duration and course of the two diseases are markedly different, and a brief treatment should lead to an early decision as to the nature of the disorder; (d) ulcer is much more frequent than cancer.

(5). The commendable terseness with which a distinguished London physician has summarized the principles which obtain in the treatment of this affection, leads me to quote them: (I), rest; (II), the cure of the conditions of the stomach which cause undue acidity from fermentation or hyper-secretion; (III), the relief of pain; (IV) the relief of vomiting; (V), the arrest of hemorrhage; (VI), the relief of constipation; (VII), the treatment of perforation.

Dr. VanDerveer strictly enjoins rest, not only of the organ affected, but of the entire body as well. In diet milk is preferred. No solid or animal food allowed, and in severe cases, no food *per os*, rectal alimentation being resorted to. Opium and its preparations, bismuth, pepsin, hydrocyanic acid, and notably nitrate of silver, are the preferred medicines. It is important, however, not to irritate the ulcer by over-medication. Bowels are best moved by injections. Mild doses of castor oil may be used but no other cathartic. To check hemorrhage, ice externally, tannin, turpentine fl. ext. ergot internally, and ergotine hypodermically, Annodynes as needed. Blisters by way of counter-irritation.

It may be well to terminate at this point a very imperfect review of a very excellent paper. Before laying aside the pen, however, we embrace the opportunity of once more repeating the statement, that such papers as the one upon which the foregoing remarks are based, are, for very obvious reasons, particularly valuable, and it is earnestly to be hoped that the number of such reports, carefully and conscientiously prepared, may continue ever to increase.

\***MOTOR CENTERS OF THE BRAIN.**—"The doctrine of cerebral localization is established. There exists a region of the cortical substance of the brain where are grouped together the centers of voluntary motion.

The center of localization of speech (convolution of Broca) presents for itself alone a distinct history anterior to that of the centers of voluntary motion.

\*Trephining Guided by Cerebral Localization, by Dr. J. Lucas Championniere, Paris.

Modern physiological and pathological observations have, in the first place, established the excitability of the surface of the brain at certain points. They have shown that the experimental or pathological destruction brings on a paralysis of the muscles animated by these motor centers. Artificial or pathological excitation of these motor centers agitates these muscles with convulsions.

These observations have shown not the identity, as some have wrongly believed, but the analogy of the brains of certain animals and the human brain. The analogy consists especially in this: in both the surface of the brain is excitable; but the difference exists in certain results of the excitability.

For example: it is established that in animals, the motor centers can be supplemented. Paralysis following destruction of a cortical motor center are not permanent. After some time the movements corresponding to the motor center are restored.

However, in proportion as we ascend in the animal scale, this supplementing becomes more difficult. The beautiful experiments of Ferrier seem to show it.

This author has also shown that, for the brain more complicated than the others, the separation of these centers is much more complete. Well limited, the excitation of certain parts of the centers gives place to very limited partial movements of certain groups of muscles. It is probable that in man, all the more, this separation is still more complete.

One could study still more upon these complicated brain troubles from secondary degenerations; observe thus:

Traumatism, temporary compression of the motor center, paralysis. The depression is relieved, movement is restored. But the parts touched—irritation—undergo degeneration; and probably after them the conducting trunks; and the motor function is abolished a second time and finally. Observations when this fact has been noted serve again to demonstrate that the supplementing of these centers is not so easy as it has been desired to state.

There are, doubtless, contradictions of facts—possible errors of detail; but the principal points are gained, and they will not be destroyed by counter experiences.

According to the paralysis found, it is necessary to open, by the trephine, the following regions:

*Lower Limb*.—Summit of the motor region (ascending parietal)  
*Upper and Lower Limbs*.—Summit of the ascending parietal region, across both convolutions. *Upper Limb alone*.—Middle third (middle part of the ascending frontal). *Upper Limb and Aphasia*.—Lower third, and in front of the groove (lower third, ascending frontal, foot of the third convolution) *Facial Paralysis*.—Lower part of the motor region, and forward (lower third, ascending frontal, and foot of second frontal). *Aphasia*.—The lower and most anterior part of the motor region (foot of the third frontal)."

The preceding extract will, at the same time that it interests the reader, serve to indicate the attitude of the author of this historical and clinical study of cerebral localization, with reference to trepanation of the

cranium, on this interesting subject. The book is such a one as the ability and fame of the author would lead us to expect, and our expectations have not been unrealized by its perusal. The contents of the book, independently of the author's well-known merits as a writer, commend themselves to all who are interested in the practical bearing of cerebral localization. The volume should, before now, have been translated into English.

The several chapters (11 in all) treat of: 1.—Considerations upon trephining in prehistoric time, and among modern savages; operative medicine. 2.—View of the opinions relative to trephining in wounds of the head; modern opinions. 4.—Considerations which have led to utilizing cerebral localization in trephining. 5.—Cortical motor centers of the brain exist; what is the most precise determination which has been made of them? 6.—Observations of wounds of the head, showing cortical motor localizations and the influence of surgical intervention. Observations from the war of secession. 7.—Nature and form of paralyzes observed in wounds of the head. 8.—Notions of topographic anatomy and processes permitting the discovery of the motor region; operative medicine. 9.—Indications for surgical intervention in wounds of the head. 10.—Prognosis and treatment of the wounds from trephining. 11.—Appendix—examination of some works upon cerebral localizations and trephining.

We tender the author our thanks for this excellent book.

ON OSTEOMALACIA\* (mollities ossium), occurring in a case of chronic dimentia, (with illustrative specimens of the affected bones) by Ringrose Atkins, A. M., M. D., Medical Superintendent, District Lunatic Asylum, Waterford.—Dr. Atkins exhibits and discusses interesting specimens of this affection, which, though stated not to be an unfrequent accompaniment or complication of cerebro-mental disease, is yet, in the author's experience, rare; and the facts of the case are such, he thinks, as to warrant him in bringing them before the Section.

The bones shown were taken from the body of a male patient, J. M., aged 55, for over fifteen years an inmate of the Cork District Lunatic Asylum, and for the last seven years of that period, bedridden from contractions and rigidity of the lower limbs. He had originally been a soldier; and while in India, some years before his admission to the asylum, he had, in a paroxysm of mental alienation, removed the entire scrotum and testes. For several years subsequent to his admission, he was said to have been a lithe, active and a good-looking creature; while the reputation of his dancing powers still followed him when he first came under Dr. A.'s observation—towards the end of the year 1873. He was then, and had been for years, a bedridden and aged-looking cripple, with the peculiar effeminate physiognomy and almost colorless hair of those deprived of the organs of generation. As he lay in bed, the knees were fixed immovably in the flexed position, and the joint-ends of the bones appeared enlarged, but this was only comparatively so, from the degree of emaciation to

\*Being a paper read in the Section of Psychology at the annual meeting of the British Medical Association in Cork, August, 1879, and reprinted for the author from the British Medical Journal of June 26th, 1880. Published by the British Medical Association.

which the thighs and legs had been reduced; the former were partially flexed on the pelvis, and quite immovable. He very frequently complained of intense pains, which he located in the knees principally, and would cry out lustily if any manipulations were attempted on them; though, in general, he was a most uncomplaining and self-satisfied patient, lying always on his back, from which he could by no means move himself: answering invariably, when questioned as to his condition, with a smile, that he was well, and hoped to be soon able to rise. He could use the arms and hands, and was scrupulously neat and clean in his habits and surroundings. He never allowed himself to get wet or dirty; and it may be to this that his complete immunity from any trace of bed sore, during the seven years he so lay, is to be attributed. All the muscular groups of the limbs and the trunk were emaciated. His appetite was excellent; and, during the four years Dr. A. knew him, he never suffered from any acute illness or functional disturbance of any organ. His mental condition was characterized by mild though persistent dementia, accompanied with delusions, which, curiously enough, were frequently of a most amatory nature. He knew the names of some of those immediately attending on him, while he entirely mistook the identity of others, though he recognized their appearance. He frequently fancied that the devil came to torment him when the apparently arthritic pains came on.

On Friday, November 20th, 1877, a strange fatality had occurred: The room which the patient occupied was a small associated dormitory, which was being dusted down by a generally quiet and harmless fellow-patient. While the latter was thus employed, our patient requested him to desist as he disliked the dust and disturbance; and, in return, the other came over to his bed and playfully threw himself on him, with the effect of at once breaking both thighs about their upper thirds and both lower limbs, the right being fractured in the middle, the left in the lower third. The position the limbs had now assumed was very strange-looking; the thighs were completely flexed on the body and their anterior surfaces lay along the abdomen, the knees resting on the clavicles; the calf of each leg was in close apposition with the posterior surface of each thigh, and the heels touched the buttocks. He made no cry or complaint of pain, and said to Dr. A. that "it was a thing of nothing;" movement, however, of the broken limbs caused pain.

As the limbs could in nowise be straightened, and as the deceased condition of the bones was now made evident, from the slight force which had been sufficient to do such extensive damage, small splints secured with bandages were applied, merely to give support to the powerless legs, which lay a dead weight on the abdomen. After about a week, however, the groin and lateral surface of the abdomen at the left side began to strip and inflame, while small eschars formed at the seat of the fractures of the femora. The knees were further raised and supported on a kind of bridge placed across the bed. On the next day, quietly and without any indicative sign, he died.

"I made a *post-mortem* examination of the body twenty-four hours afterwards, and removed the head and portion of the humerus, the head of the femur, and the knee-joint, all from the right side. On first inspection, the surfaces of the bones, beyond being slightly enlarged, presented

no deviation from the normal condition. On touching them, however, they were found to be almost as fragile as rotten timber. Any of the bones of the lower extremities mentioned could with facility be cut through with a scalpel, and the vertebral column cut during the removal of the spinal cord was in a similar condition. The head of the humerus was equally soft; but the calvarium was not notably affected. On section of the bones removed, the medullary portion was seen to be vastly enlarged, and the cortical layer proportionally diminished in thickness, being, over the heads of the humerus and femur, reduced to the thinness of paper; the cancellous tissue formed at the expense of the cortical was extremely delicate and friable, and its trabeculae were everywhere loaded with a semifluid oily or fatty looking material, which I have removed in great part by boiling. The cancellous tissue was not present in the shafts but it made up almost entirely the heads of the bones, the morbid process being farthest advanced in the tibiae and femora and least in the bones of upper extremities. So softened was the osseous tissue, that a fine section was cut from the end of the tibia, and the patella was cut in halves with the scalpel, without the slightest resistance. The lower portion of the femur was so reduced in thickness as to be quite translucent. The brain, beyond some slight convolitional atrophy, showed no gross change. The spinal cord was smaller than usual. Prepared sections showed, in the brain, some thickening and irregularity in the course of the entering cortical vessels, while those deep down were frequently seen surrounded with the remains of yellow exudation, or dotted with granules and nuclei, while irregularly edged spaces indicated where others had fallen out in the preparation of the specimen; the nerve-cells were more or less affected with pigmentary degeneration; some still preserved their outlines, though bereft of their branching processes and granular; while again, large oval and but slightly colored naked nuclei, surrounded by clear spaces, remained to testify to their once having formed part of now destroyed nerve-cells. The neuroglia superficially was coarse, and sparsely dotted here and there with fine brownish granules of haematoidin and leucocytes. In the spinal cord, the vessels were thickened; relatively more so than those in the brain. Throughout the cervical and dorsal regions, the nerve-cells of the anterior cornua were affected in different degrees, and unequal at each side. In several of the cervical sections, the majority of the cells had wellnigh disappeared or remained as granular rounded masses; in others, the latter condition predominated; while in the lumbar and sacral sections, beyond some yellow pigmentation and the occasional absence of the processes, the cells were intact. In several sections from the lower cervical and middle dorsal region, the gray matter forming the junction between the anterior and posterior cornua was softened, and were frayed out, presented a fibrillar appearance. The central canal was, throughout the entire length of the cord, completely obliterated by an agglomerated mass of nuclei (this condition is very frequently met within many cords, and little if any pathological importance can be attached to it). The white columns were somewhat coarse, but presented no definite histological lesion. Sections of the right median nerve showed the intrafunicular connective tissue somewhat coarse, but the nerve tissues, beyond being here and there diminished in size,

presented no alterations of morbid character. Similar examination of the right sciatic nerve revealed advanced degenerative lesions; to the naked eye, the different funiculi appeared widely separated from each other; and on staining with carmine, the intervening tissue became delicately colored, and was found to consist of tracts of fine areolar tissue and clusters of adipose cells, with wide-mouthed vessels running through it, the walls of which were sclerosed and densely colored; the funicular sheaths were much thickened and fibroid, and the funiculi themselves, which were in parts reduced in size, had shrunk from their sheaths. The nerve tubuli composing the funiculi were for the most part normal in appearance, though many must have shrunk or disappeared to account for the reduction in size of the funiculi. The muscular tissue from the right biceps was but little altered, some of the fibres being here and there granular, and losing their striation; this condition was far advanced in the muscular tissue of the right semimembranosus, the fibres being reduced to granular masses, still preserving their outline, scarcely if at all colored by carmine, while almost all trace of transverse striation had been lost.

The fibres were separated from each other, and surrounded by adipose tissue, which gave to a piece of the muscle a grayish yellow appearance and rendered it flabby and gelatinous and difficult to harden, while the biceps muscle quite retained its normal naked eye appearance, and this condition of the muscles thus corresponded, it will be seen, in the same ratio with the nerves and bones in the same situations.

Disease of the bones has been, as I have mentioned at the outset, now for a considerable period recognised as an accompaniment or complication of insanity. In the year 1842, Dr. Davey detected the existence of osteomalacia in those dying insane; and in a number of the *Medical Times* for that year, describes a case, occurring in a female patient, where six spontaneous fractures of the long bones had taken place; the same physician, in 1857, stated, that he had met with six cases amongst the patients dying at Hanwell and Colney Hatch; and further, that the greater number of these cases were affected with general paralytic insanity. Drs. Clouston, Rogers, Brown and Sankey have more recently (1870) called attention to a similar condition, directing attention especially to its presence in the ribs, thus rendering them excessively prone to fracture, and causing censure to be unjustly cast on attendants or others who may be in charge of such patients, and who may be blamed for using unnecessary violence where, in reality, the injuries received were, if not wholly, at least in great part, the result of disease and not external force. More recently still, Dr. Morselli of Florence has, in an able article in the *Revista Sperimentale di Freniatria e di Medicina Legale*, reviewed the entire literature of the subject, recording at the same time five cases coming under his own observation in which fractures of the ribs had occurred or were found *post-mortem*. Dr. Morselli states that his conclusions have led him to believe that there is, in insanity, a tendency to softening and atrophy of the cortical part of the bones, with hypertrophy of the medullary canals and fatty degeneration of the medulla, and that this condition is usually not recognisable during life.

To the direct relation between morbid states of the osseous system and definitely diseased conditions of the nervous centers, much interest has

attached since attention was directed to their causal connection by M. Charcot. At the Manchester Meeting of the Association, that eminent pathologist exhibited specimens of the bones from a case of locomotor ataxy; in these, however, the heads of the long bones were deprived of their cartilages, and worn away and eroded, but not softened; while in that condition with which we are now engaged no external deformity had become evident, the morbid alteration being confined to the degeneration and semiliquefaction of internal portions of the bones, leaving their surfaces unaffected. Hence it becomes a question whether there be any connection as regards causation or dependence on primary nervous lesions between the two conditions. M. Charcot is of the opinion that the deformities of the articular ends of the bones in ataxy are due to a lesion of the anterior cornua of the gray matter of the spinal cord consisting in a disappearance or diminution in the numbers of the motor ganglion-cells there situated. In the case I have just recorded, microscopical examination revealed the existence of a lesion of this nature, though not to such an extent; and further, there were accompanying it muscular atrophy and degeneration and atrophic changes in the peripheral nerves, disturbances of nutrition which are known to be consecutive to destruction or degeneration of the motor ganglion cells of the cord.

*Looking, however, to the facts of the case, it may be asked if these different lesions, which microscopical examination has revealed, are not the result, together with osteomalacia, of the functional inertia to which the members were condemned from the long-continued disuse.* In M. Charcot's ataxic cases a certain degree of motility had been preserved; hence, this argument did not there hold good to such an extent as it does in the present instance, where the immobility, at least as regards the lower extremities was complete. That this functional inertia played some part in the causation of the degeneration of the osseous tissue is, I think, rendered highly probable when the correspondence between the distribution of the latter and the inutility of the limbs is taken into consideration. The bone-softening, as can be seen in the specimens, is much further advanced in the lower limbs, which were perfectly useless, than in the upper, which still retained the power of movement: and, further, the fact that the spinal column, which rarely moved, partook in the disease adds weight to this; while the same consideration applies to the muscles and peripheral nerves, which were afflicted in a like degree to the bones. Further, I have seen cases where the destruction of the motor ganglion-cells had reached to a greater degree without any evidence of this having led to degeneration of the bones. Against such a view, however, it must be borne in mind that of all the many cases of permanent loss of motor power from cerebral hemorrhage or other causes, spontaneous fractures of the limbs or breaks from slight injuries are in the highest degree infrequent; and here, of course, the same functional inertia is in existence; hence it is possible, and even probable, that in such cases as I have been considering, the primary nervous disease may have played a causal part in the alteration of the osseous structure, though as to whether this depended in any way on the histological lesion in the spinal cord, or had its origin in a defective nerve-nutrition generally, is by no means easy to say. Further, I should like to have the opinion of

those around me, as to whether the loss of virile power could have any influence in the induction of the lesions which these bones exhibit.

In osteomalacia, lactic acid has been found in the medulla of the hollow bones, and Billroth thinks it highly probable that the bone is dissolved by this acid, the lime passing into the blood, and being often excreted in large amount in the urine as oxalate of lime; but the causes which influence this production are as yet involved in obscurity."

We transcribe this interesting case entire, together with the author's comments, taking only a little liberty of abridgement of the author's detail, which, however, amounts of very little—the style being so generally terse and comprehensive.

To alienists osteomalacia is an interesting study. The true explanation of its cause, we think, will not be found, as the distinguished writer suggests, in the functional inertia to which the members are condemned; though, in the case under consideration, this fact may have been an important factor in the production of the condition found in the patient's bones, but rather in the diverted nutrition to the overactive brains and voluntary nervous systems of such insane persons as have these fragile bones. The demands of the over-taxed cerebrum and voluntary nervous system starve the brain, so to speak.

We tender the author our thanks for the pleasure and instruction the reading of this interesting paper has given us.

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## ❖ HOSPITAL NOTES. ❖

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DR. JOHN CURWEN, after thirty years of successful service as physician and superintendent of the Pennsylvania State Lunatic Hospital, at Harrisburg, will be displaced at the expiration of his present term of office by Dr. J. Z. Gerhard, who has been elected to succeed him.

Dr. Curwen will open an office in Harrisburg, for consultation on nervous and mental diseases, where the afflicted of Pennsylvania will have the benefit of his long observation and ripe experience in psychiatry and neurology.

It is no small compliment to Dr. Curwen that his successor in office is one who has served him faithfully in the capacity of senior assistant physician for the past eleven years.

Dr. Gerhard graduated at Franklin and Marshall College, class of '64, and was a pupil of Dr. John L. Atlee, of Lancaster, at the medical department of the University of Pennsylvania, graduating in 1868.

The Easton, Penn., *Express* speaks in high praise of Dr. Curwen's successor.

Dr. Gerhard's assistant physician, Dr. Geo. D. Staley, was also six years under Dr. Curwen. The trustees might have gone further and done worse.



While the loss of Dr. Curwen's ripe experience and wise counsel to such an institution is to be regretted, it is a source of congratulation that men trained by him are to succeed him, and that no political doctor, skilled in running with the political machine, have been chosen in Dr. Curwen's stead.

We hope, under Dr. Gerhard, the future of the Harrisburg Hospital may be as prosperous as its past has been under the wise and skillful administration of Dr. Curwen.

DR. ORPHEUS EVARTS, superintendent and physician to the Cincinnati Sanitarium, reports to the *American Journal of Insanity* for October, the case of a maiden, aged 30 years, in fair general health, and of average intelligence, who was seized in the autumn of 1846 with apparently an intermittent fever, followed the next day, by right side paralysis and loss of speech power and mental failure. Dry gangrene also appeared in the left great toe and extended to the upper third of the tibia in front and part way up the fleshy calf posteriorly. Dr. E. amputated the leg, a pus sac was found under the belly of the muscles behind, which was dissected out.

The stump healed and the woman grew fleshy. The paralysis disappeared, mental activity returned, but "so far as mental phenomena were concerned, the woman was a new borne creature, without memory, of previous existence. She had to learn everything *de novo*, but learned everything much more rapidly than an infant."

DR. JOHN P. GRAY, Superintendent and Physician of the New York State Lunatic Asylum, has been giving Merc's Hyoscinamin a therapeutic test in the wards of that institution, and is very much pleased with it. His results are communicated, at length, in the *American Journal of Insanity*. The smallness of the dose—1-6 to 1-4 of a grain, and the facility with which it may be administered, hypodermically, commend it in cases of mania, chorea, hysteria, etc.

We have given it with safety and satisfaction in 1-6 grain doses, hypodermically, in high maniacal excitement with excellent effect, the sleep following being more prolonged than that resulting from chloral.

Dr. Gray has not used it in delirium tremens. We have found it equally as efficacious in alcoholic as in non-alcoholic delirium.

DR. JOSEPH G. ROGERS, superintendent and physician to the Indiana hospital for the insane, in his report for 1880, states that "The number of so-called cases of reflex insanity has been small, and the role played by eccentric conditions seems to be insignificant. Uterine diseases have some influence in aggravating insanity, but hospital experience seems to demonstrate that they rarely, at most, operate as a prime cause. When this complication does exist, the physiological rest secured by hospital residence is, in most cases, sufficient for the cure of this class of troubles. Special treatment is not often required. Such cases, however, are carefully investigated, and where interference is required such needed treatment is given."

The above statement recalls an interchange of opinion between the asylum superintendents of this country, at their meeting at Staunton, Va., in which the venerable Dr. Francis Stribling, of Staunton; Dr. Greene, of

Milledgeville, Ga.; Dr. Kirkbride, of Philadelphia; Dr. Jno. S. Butler, of Hartford; Dr. Joseph Workman, of Toronto, Canada, and others of long experience in the treatment of insane women, participated, and their concurrent observation was to the effect that most of the uterine troubles of their patients disappeared under the general therapeutic and hygienic and special cerebral treatment required for their insanity; that many got well of uterine and cerebral disorders at the same time, whilst others recovered the insanity, despite the persistence of uterine derangement, and that all of them received much less uterine medication within the asylum than they had outside, during and before the accession of the mental disease which occasioned their commitment.

DR. R. S. DEWEY, superintendent and physician of the hospital for the insane, at Kankakee, Ills., in his report for 1880, thus places himself on record in regard to restraint and seclusion.

"I have adopted the plan, from the outset, of having no restraining apparatus kept in the wards. When mechanical restraint was needed in any case, attendants were required to report for instructions to one of the physicians. If its use was allowed the physician went to see it applied; and the apparatus used was required to be returned from the ward as soon as the time for which it was allowed expired.

On the subject of occupation the doctor says: "From the day of opening, patients who were able-bodied and had nothing in their mental state to interfere, began to go out with their attendants to work, and whether what they accomplished was little or much, they were allowed to go, and were out as much as possible in good weather. The attendants performed their share of the work, and encouraged patients by their example." And on parole and open doors he speaks thus: "Those in charge of the insane find themselves in an embarrassing position between paradoxical opinions. On the one side, there is an unthinking demand for 'emancipation' of the insane, and on the other, a prejudiced view, springing largely from ignorance regarding insanity, that every lunatic is violent, dangerous and untrustworthy; and the same person will often, at different periods, according to circumstances, be found entertaining both of these opposite views. The truth rests somewhere between these extremes, but insanity is, at best, a somewhat uncertain element to deal with; hence great circumspection is necessary in the course taken by those responsible for the care of the insane.

"From the opening of this institution I have sought to trust the patients as far as seemed judicious, even running the risk occasionally of an elopement in the case of an inoffensive patient, often with the approbation of family and friends in such a course. Patients were given occasional trials, and carefully observed, and the number on parole was gradually increased until, on the 27th of last July, I was able to accomplish what I had aimed at from the first—the opening of one of the wards. This was done by putting all of our paroled patients, twenty-two in number, in one ward, and filling up the ward with the most trustworthy of those remaining. The number on parole was soon increased to twenty-eight, and an average of twenty-five paroled patients has been maintained in the open

ward, from July 27 until the present writing (October 27). Our average total number of patients in that time has been ninety-five; hence twenty-six per cent. of our patients have enjoyed this modified form of liberty."

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## ❖: PUBLICATIONS: RECEIVED. ❖

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The Structure of the Vessels of the Nervous Centers in Health, and their Changes in Disease. Parts I., II., III. and IV. By Theodore Deecke, Special Pathologist, New York State Lunatic Asylum, Utica. From the American Journal of Insanity for January, 1880.—Contributo allo Studio Delle Malattie Accidentali, dei Pazzi dei Dottori Seppilli Guiseppe e Riva Gaetano. Dalla Clinica Psichiatrica Della R. Università di Modena diretta dal Prof. Tamburini presso il Frenocomio di Reggio Emilia.—Enumeration, Classification and Causation of Idiocy. By Isaac N. Kerlin, M. D. Extracted from the Transactions of the Medical Society of the State of Pennsylvania for 1880.—Psychological Aspect of the Laros Case, on the trial of Allen C. Laros, at Easton, Pennsylvania, U. S. A., for the Murder of his Father, Martin Laros, by Poison, the Defense Being Based upon the Allegation of Epileptic Insanity. By Edward C. Mann, Superintendent Sunnyside Medical Retreat for Mental and Nervous Diseases, New York City. Reprinted from the Journal of Psychological Medicine, Vol. VI., Part 2.

Cerebral Circulation. The Duties of the Medical Witness and his Privileges. The Mind.—Lectures delivered in medical colleges by D. A. Morse, M. D., Medical Sup't of Dayton Asylum for the Insane.—Pathologie de la Claustrophobie. By Dr. Benjamin Ball, Clinical Professor of Insanity, Faculty of Paris. Translated from the Annales Medico-Psychologique, Nov., 1879. By D. A. Morse.—The Jurisprudence of Insanity: I., An Analysis of the Human Mind; a Basis for the Study of Insanity. II., The Law of Insanity in Criminal Cases. By D. A. Morse.—The Doctrines of the Human Will as Interpreted by the Courts. By D. A. Morse.—Report on Dipsomania and Drunkenness. By D. A. Morse.—Higher Education of Medical Men, and its Influence on the Profession and the Public. Being the address delivered before the American Academy of Medicine, at its fifth annual meeting, held at Providence, R. I., Sept. 28th, 1880. By E. D. Lente, A.M., M.D., President of the Academy. Published by direction of the Academy.—And fifty other monographs, some of which will be noticed hereafter. The lateness of our going to press, and their large number compels their omission. Quite a number will receive notice in our Review Department.

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ORIGINAL CONTRIBUTIONS AND TRANSLATIONS.

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Art. I.—Progressive Facial Hemiatrophy (*Emiatrophia Faciale Progressiva*)\*

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By PROF. MARAGLIANO.

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Translated by JOSEPH WORKMAN, M. D., Toronto, Canada.

ON the 28th of February, 1880, a girl named *Maria Doberti*, aged 10 years, was brought to me for advice and treatment, because of an infirmity that had long afflicted her; in describing the actual state of whom, I shall now detain you for a short time.

The history of the little patient, as ascertained from her mother, gave the following facts:

Maria Doberti was born at the full time, her parents were sound, robust and, in every way, active. Being given to a nurse, she passed the first year without any accident; but, at the end of this period, she had a fall, in which she struck the ground with the left half of her face. In consequence of this fall, and the resulting contusions, as the nurse states, a circumscribed tumefaction appeared near the external angle of the left eye, but it

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\*From *Note di Clinica Medica*, Genoa, 1881.

disappeared in a few days. To her surprise, however, after a period which she could not exactly state, the nurse discovered that the left half of the face had become smaller than the right.

With the progress of years, this atrophy of the face became constantly more marked, so that the parents, grieved at the deformity that ensued, consulted several physicians, who, however, did not prescribe any treatment, and attributed the smallness of the left side of the face to anomalous development of the corresponding bones.

Her present state is as follows:

She is a child of sufficiently robust constitution. Her skeletric construction presents no anomaly; the adipose layer is distinctly developed; the muscular masses are also well developed, with exception of the left half of the face, of which I shall, presently, speak more particularly. Her stature is 1.23 m., and her weight 23 k. Her hair is chestnut colored; the skin is brownish; the mucous membrane is red.

The physical examination, minutely carried out, showed no anomaly, excepting that of the face, on which the following appearances were noted:

On inspection, the left cheek, especially in the lower part, appeared notably atrophied, and in such a manner that the osseus prominences were clearly and distinctly designated beneath the tissues, which had the appearance of parchment closely applied over the bony structure beneath. This disposition caused to be observed, towards the central part of the cheek, a marked furrow, which corresponded exactly to the line in which the two maxillæ come into contact.

The left labial commissure is not parallel to the right one, but is, on the contrary, seen to be more elevated, and this asymmetry is rendered more visible when the patient speaks or laughs.

The same happens to the left naso-labial sulcus, which is still more accentuated when she speaks or laughs. The soft parts of the left half of the forehead also appear

atrophied, and very much less developed than on the right. Palpating the cheek with the finger inside and the thumb outside, it is found to be extraordinarily thinned away, in comparison to the right, so that the skin and the mucous lining appear to be applied to each without any interposed tissue. It is impossible to raise a fold of the skin,—so much is it thinned, and so closely adherent to the bone.

The movements of the face appear less free on the left. The lower jaw moves better on the right than on the left, and when the patient is requested to puff the cheeks, holding the mouth shut, the right one is much more distended. The muscles being tried with the induced current, responded vivaciously to the electricity.

The dolorific, thermal and electric senses are perfect, as is also that of place and contact.

Examination of the bony skeleton showed no comparative difference of the two sides, deserving of note.

The right cheek, well developed, sufficiently rich in adipose tissue, normal in its alignments, and lively in its motions, showed a singular contrast to the left one.

The tongue is equally developed on both sides, normal in its movements, and perfect in its sensibility. Deglutition is well accomplished. The lachrymal and nasal secretions present no modification on the affected side, nor is there any abnormality in the salivary secretion.

So far as appears, the patient has never found any pains in the affected part, at least she does not remember ever having had any, and the statements of the nurse and the mother on this point, are quite in accord as to this fact.

The diagnosis of the morbid affection which has afflicted our patient, appears to us neither doubtful nor difficult.

We have not to do with a facial congenital asymmetry; the history of the case totally excludes this belief. On the other side, the absolute absence of deviations of the vertebral column, eliminates the probability of one of those acquired secondary facial asymmetries, which are

not rarely found in wry-neck, from compensatory incurving of the opposite part of the neck.

Might it then be, that we have a paralysis of the facial nerve?

Certainly not, and without going in search of many other reasons which would negative such a probability, this fact alone suffices,—that in our patient no paralysis of the face has existed. The labial commissure, instead of drooping, is even more drawn upwards than the corresponding one, and the naso-labial sulcus is more marked on the affected than on the sound side; all the movements of the face are possible.

In the last place the atrophic muscles respond to electric excitement; a fact which ought not to be met with in a grave facial paralysis.

May the case be one of progressive muscular atrophy? It is quite true that no atrophy exists in any other muscular groupe, in any other part of the body; but it is certain that *Duchenne* has precisely observed that in children muscular atrophy originates in the face, to which it is limited for a few years, after which it invades other parts.

In our case, however, we cannot have progressive muscular atrophy, for the following reasons:

1st. The age at which the atrophy arose. In our patient, the disease began not after her third year of age, whilst in the fifteen cases of muscular progressive atrophy in children, collected by *Duchenne*, it commenced in none before the fifth year.

2nd. The characters of atrophy. According to *Duchenne*, the first muscle in which the affection is manifested is the orbiculus of the lips, in consequence of which the lips, from the want of contraction of this muscle, appear enlarged and pendent, giving a characteristic stupid aspect to the physiognomy, as is apparent from the figures which the illustrious French electro-therapeutist has published.

Besides, in our patient, on the contrary, we have atrophy of the lips and the cheek of one part only. Nor



this only, but in children affected with progressive muscular atrophy, the atrophy of the muscles is not systematic in one-half of the face, but is distributed discursively, now to one, and now to another of the facial muscles of both sides; whilst in our case it is vigorously unilateral. Besides, in addition to these two principal points, the mode in which the cutaneous integuments behave under palpation, furnishes a differential criterion.

In progressive muscular atrophy, as Hammond well observes, the skin is flaccid and soft, and it can be easily raised in large folds; a fact which has certainly never been verified in *Doberti*, in whom it is quite impossible to lift the very smallest cutaneous fold.

There is then but one single morbid affection capable of giving us the symptomatic picture presented by our case, and this is the *progressive facial hemiatrophy* of *Eulenburg*, which is characterized by an atrophy exactly and exclusively limited to the half of the face, without any other part sharing in it. Hence, in our case we have exactly a *progressive facial hemiatrophy*, as otherwise designated by *Romberg* under the name of *facial trophoneurosis*; by *Moore*, as *unilateral atrophy of the face*; by *Lande*, as *aphasia laminosa*; and, by *Bergson*, as *prosopodismorphia*.

Having thus established our diagnosis, it is time to turn our attention to the progress of the symptoms, which, from its outset, this infirmity has presented in our patient, in order to see in what relations they stand with what we know of the pathology of the disease.

In the first place, taking our departure from the etiological agency, in consequence of which this atrophy might be developed, we are evidently constrained to admit that it had its seat in the injury suffered by the child at a very early age.

Nor is our case the first in which a facial hemiatrophy has followed an injury; for, in *Rosenthal*, *Eulenberg* and *Hammond*, we find injuries given among the etiological agencies. The age at which the first morbid phenomena were presented would be the earliest yet observed, as *Eulen-*

berg, who has registered all the few cases, scattered here and there in medical literature, has found that the lowest age, up to this time met with, has been that of three years; in our case it was under two.

The sex of the patient goes to augment the number, already preponderant, of females in the statistic table of these affections. In the thirteen cases collected by Eulenberg, nine appertained to *males* (?) and four to *females*. [Note.—Should not the figures be nine females and four males?]

The side affected, also, has something special and characteristic. It results from the observations hitherto collected, that the disease is almost always located on the left side of the face. Thus, in the thirteen cases of *Eulenberg*, the atrophy was found eleven times on the left, and twice on the right.

The atrophy in our case is characteristic, and has exactly all the features commonly assigned to the disease by all observers, and it is one of the most extended yet observed, for it not rarely happens that all of the muscles of the half of the face are atrophied, but only a part of them.

It is usually observed that the appearance of the atrophy is preceded by whitish spots, similar to those achromic ones, which appear precisely where the atrophy itself is afterwards manifested. Such spots were never noticed in our patient, neither was any nutrient alteration in the hairs of the head, the eyelashes or the eyebrows, observed, though, not unfrequently they are seen to fall off or to become discolored in the disease.

The conserved electro-muscular contractility, in the affected half of the face, was found normal, and this condition found explanation in the fact that the muscular fibre, though diminished in volume, was not altered in the integrity of its anatomical constitution, as *Hammond* has been able to verify in microscopic examinations, made by him on fibres extracted by means of the *emporte-pièce* of *Duchenne*.

From these examinations it results that the fibres of atrophied muscles are not at all degenerated; they conserve their striature both transverse and longitudinal, but they show their diameters reduced, at the least, one-third—a reduction which causes the striæ to appear much closer to each other than in the normal state. This fact might certainly furnish, in doubtful cases, where it might be needed, a characteristic, differential criterion of progressive muscular atrophy in which, as is known, there is a degeneration of the muscular fibre.

In the facial lineaments of our patient there is a feature which, at first sight, may appear paradoxical, and which, in fact, surprised the young gentlemen who attended in the clinical hall, at the examination: I allude to the asymmetry of the two labial commissures, of which that on the sound side is lower than that on the affected side, which is seen to be drawn upwards, especially when the muscles of the face are in action, and, consequently, the naso-labial sulcus is always then more accentuated on the affected side.

We may be asked by some person, are the muscles atrophied preponderant over those of the sound side? Does it not really happen in facial hemiplegia, that the labial commissure on the paralyzed side hangs down and is at a lower level than that in which the other is seen? This objection certainly appeared very reasonable, on the part of one first brought to the examination of the patient, but it suffices to reflect for an instant, in observing the causes of this apparent discrepancy, to be convinced that the mode of comportment of the labial commissure and of the naso-labial sulcus is perfectly natural and necessary, the conditions which, in facial paralysis, give place to changes in the facial lineaments being altogether different.

In facial hemiplegia the labial commissure droops on the paralyzed side, *but it maintains its normal level on the sound side*. In our patient, on the contrary, it is carried up on the affected side, and maintains its normal level on the sound side. In both cases, however, the sound side

does not at all come into play in the deformity of the aspect, which is due only to the affected side.

The participation of the muscles which, in physiological conditions, appertain to the half of the face, being thus eliminated, it is easy to understand why in our case and in all similar to it, there should be an upward drawing of the labial commissure. In truth, as appears from the actual state as before explained, *the depression and the atrophy are especially marked on the lower part of the left half of the face, and particularly on the left half of the chin*, by which it is evident that the depressor muscles of the labial angle have, as they ought to have, less energy than those deputed to draw it upwards.

The deviation of the labial angle is, therefore, due to the preponderance of action of the elevator muscles over the depressors, which are more notably atrophied. In facial hemiplegia, on the other hand, the labial angle falls, because the muscles paralyzed have lost their tone and their facility of contracting.

In some cases, observed by others, fibrillary contractions have been seen in atrophied muscles; nothing of the sort was observed in our case, although our research was conducted very minutely; atrophy of the tongue, of the velum pendulum and of the uvula on the affected side was not present, though this condition has been found by *Lande* and *Fremy*. In eleven cases *Lande* met with atrophy of the tongue five times; and *Fremy*, in twenty-seven cases, eight times; and both met with unilateral atrophy of the velum and the uvula many times. On a par with the defect of these atrophies in our case was that of the larynx, observed sometimes by *Lande* and *Fremy*; at least, the absence of any alteration of voice warrants the exclusion of this condition.

The duration of the disease, as we have seen, has already exceeded eight years, and is in perfect accord with the ordinary progress of progressive facial hemiatrophy, a disease of eminently slow nature, which may last over twenty years, or may, so to speak, be of indefinite

duration, because it is an infirmity that does not of itself kill, so that in those affected by it, death is caused by intercurrent diseases.

What may have been the pathogenetic process, which in our patient gave place to the development of the facial hemiatrophy? This is a question, to which, in the present state of science, it is impossible for us to reply, as it always has been to those under whose observance examples of the disease have fallen.

Of hypotheses, it is true, many have been offered, but none of them have had sound basis, because there has not been one case in which an autopsy has been possible, from which to learn the anatomico-pathologic relation.

*Eulenberg* attributes facial hemiatrophy to a lesion of the tri-geminus, and afterwards, completing, and modifying in part, his views, in his work on the pathology, produced in collaboration with *Guttman*, he hints at the possibility of a participation by the grand sympathetic due to the fibres which run with the tri-geminus.

*Fremy* also seems to hold, as possible, a lesion of the tri-geminus; *Stilling* makes it depend on a disorder in the vascular innervation of the affected locality; *Barwinkel* ascribes it to a special alteration in the spheno-palatine ganglion, which may lead to a diminution of calibre in the small vessels of the face.

*Hammond*, in his turn, holds that it is an affection of the trophic cells which constitute the nuclei of the origin of the facial, and that sometimes those of the nuclei of the hypoglossus, the spinal and tri-geminus are involved. *Brunnes* attributes it to a permanent irritation of the great sympathetic. *Rosenthal* says that he finds nothing irrational in supposing a neuritis of the facial nerve corresponding to the atrophied parts.

On the other side, *Bergson* and *Lande* eliminate the possibility of any implication whatever of the nervous system; and the latter attributes it wholly to a genuine and primary atrophy of the adipose cellular tissue, in which the elastic elements remain intact, and provoke in

their retraction an atrophy by compression of all the other elements, and in particular also, constriction of the capillary vessels, and with this, ulterior disturbance of nutrition.

All these hypotheses may then be divided into two grand groups; one of which includes those which admit participation by the nervous system; and the other, those which exclude it. The latter is, in reality, the less probable, and that which appears to us destined to vanish.

The fact of the perfect unilaterality of the affection might suffice to exclude, as *Hammond* well observes, the purely local character, which it has been desired by some to be given to the morbid process; but next, passing over this altogether, there are many clinical facts, from which it is not possible to explain a permanent alteration, localized in the cellular adipose tissue, as *Lande* would have it.

To this category of cases belong exactly all the traumatic lesions which cannot, with the concurrence of the nervous system, give place to the development of an atrophy in the contused tissues; and our case also, in this, concurs to exclude the possibility of this doctrine.

The participation of the nervous system being admitted, it becomes impossible to determine in what way it takes part, so that, in this position, we must fall in with the generic formulæ of *Romberg* and *Vulpian*, who, for the present, decline to localize the morbid process. Certainly, the hypothesis of a lesion of the sympathetic would be the most seductive, especially as in sequence to tumors of the sympathetic, and traumatic lesions of it (*Seelig-Mueller* and *Nicati*), slight facial hemiatrophies are seen; but no direct observation authorizes this hypothesis.

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The choice of treatment to be adopted in our patient, could not, unfortunately, give place to long discussions, from the fact that all those who have observed examples of the affection have declared it rebellious against all curative means. Electricity, hydropathy and internal excitants had

given no good results; *Eulenberg* only says he obtained some advantage to the nutrition of the parts, from the continuous current; and *Hucler* and *Moore* assert that they have obtained similar results from employment of the Farradic current. We, therefore, commenced to use the latter, proposing, to ourselves, to have recourse to galvanism in the event of no good result.

The applications were commenced on the 5th of March, and were continued till the middle of June. The benefit resulting was beyond all our expectation. At the end of the first month, from commencing the Farradic current, the nutrition of the cheek had notably improved, and when, from the closing of the clinique, the treatment had to be suspended, though the difference between the two sides still continued, it was very trivial. The furrow, which we mentioned in a former part of these notes, on the left cheek, disappeared; the tissues of it showed, under palpation, a notable thickening, almost equal to that of the right, sound cheek; and it was possible to raise a pretty large fold of the skin.

To our great regret, we have not, despite our inquiries, had further information from the patient; certainly, however, the benefit derived has been quite remarkable, and such as to lead us to conceive the warmest hopes, from the prosecution of the treatment, which we would now strongly advise.

Art. II.—Hemiopia —Mechanism of its  
Causation on the Theory of TOTAL  
Decussation of the Optic Nerve Fibres  
in the Optic Tracts at the Chiasma,  
(Optic Commissure).

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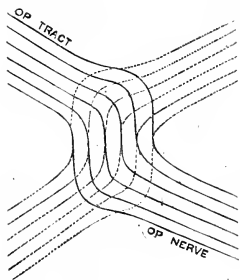
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By WILLIAM DICKINSON, M. D., St. Louis.

THE physiological experiments of Prof. Monk, detailed in this Journal, Vol. I., page 357, would seem to afford convincing proof of the theory of semi or partial decussation. But the anatomical demonstrations of the investigators cited, viz.: Biesiadecki, Michel and Mandelstamm to our mind are far more conclusive; inasmuch as the stern revelations of *anatomy* must ever afford testimony, having a nearer approach to infallibility than the deductions of *physiology*. These names, advocates of the theory of *total* decussation, are powerfully re-inforced by that of C. W. M. Moullin, M. B., late President of the Abernethian Society, London. To the volume of Saint Bartholomew's Hospital Report, for 1879, he contributes an article upon "The Chiasma of the Optic Nerves," in which he states: "The optic nerve fibrils in man do not run in groups as in dogs and in lower animals, but, almost singly, interlaced and woven together in the most intricate fashion." He illustrates the manner of their decussation by the following diagram:





In this diagram, it will be observed, there is exhibited such a disposition of the optic nerve fibres, at the lateral angles of the chiasma, as might readily be misinterpreted by the observer—especially if his mind was biased in favor of the theory popularly entertained—and afford the appearance of a continuity of the *external* fibres of the optic nerves with those of the optic tract; and also of the existence at the anterior and posterior angles of fibres commissural; at the former, with the globes; at the latter, with the origin of each tract; the optic nerve fibres (of one side being represented by continuous, of the other, by dotted lines) crossing each other in a very devious course—in a double or S shaped curve.

It may be urged, since conflicting theories exist in regard to this question, "it makes no difference as to the fact, whether decussation be partial or total, since diagnosis, prognosis and treatment, all that is essential for us to know, are all the same. Such a hasty decision is unwise, irrational and not in accordance with practical experience. Excepting its rare occurrence associated with certain conditions of the stomach or alimentary canal, readily

detected and subsiding with the cause, nearly all hemiopic symptoms must be regarded of cerebral origin, and usually accompanied by pronounced cerebral symptoms; and the diagnostic and prognostic significance of these symptoms is based on the anatomical verity of one or the other theory—semi or total decussation. This *must* be the first and pre-requisite factor that shall conduct to successful treatment; if the diagnosis here as elsewhere be empirical or uncertain, the treatment will be aimless and nugatory or fortuitously beneficial.

Hemiopic symptoms sometimes foreshadow grave lesion; therefore, they may be of serious omen. They are the alarm-cry that the citadel of life is invaded and imperiled, and unless succor and relief be instantly rendered, destruction will speedily ensue. Hemiopia is often preliminary to the invasion of an apoplectic attack, with paralysis of the same side of the body as the hemiopia, together with other phenomena. It will be observed that patients thus affected cannot see toward the paralysed side.

In right-sided hemiopia aphasia is observed; but well marked paralysis often fails to appear, though it is always imminent. The patient has a feeling of formication in the extremities, which at times becomes very great. Speech is somewhat impaired and vertigo occurs. Occasionally every symptom of cerebral disturbance is absent except headache. All these disturbances may retrograde or disappear in time, including the visual trouble, if no *course* changes have occurred in the nerve fibres. When hemiopia is associated with hemiplegia the impairment of vision is often very rapid, vision may be utterly destroyed within a few days. It thus becomes the prophecy of destructive processes, which unless yielding promptly to remedial measures will quickly terminate in death.

CAUSES OF HEMIOPIA.—The proximate cause of hemiopia is insensibility of certain portions of the retina to visual impressions; or being received, cognizance cannot be taken of them in the cerebral visual centers; their sensibility

being abolished, in consequence of the optic nerve fibres having from intra-cranial causes become incapable of conduction, which is usually the result of compression. The efficient causes, according to the theory of total decussation, must have their location *at* and exert their influence *upon* the optic nerve fibres situated at *one* of the four angles of the chiasma. The very composition of this body, as we have seen, renders it highly compressible. The pressure on the fibres of the several parts must exist to such a degree as shall impede or destroy the power of fulfilling their function. According to the portion of the chiasma upon which the pressure is exerted will be the *form* of the hemiopia resulting; and according to the *degree* of pressure, will be the degree of impairment of vision; it may exist to such degree as to annihilate the visual faculty.

This pressure finds an analogy in pressure exerted upon the spinal cord, in the latter giving rise to myelitis and sclerosis; in the former, after variable periods of time to optic neuritis, anæmia and atrophy, notwithstanding the arteria centralis retinæ enters the optic nerve at a point far anterior to the point of pressure. Again, the pressure of a tumor or effusion upon the spinal cord may expend its action directly, either upon the portion of the cord in immediate contact with it or upon that portion of the cord *opposite* to it, the pressure being exerted against an unyielding barrier; so likewise pressure upon the optic nerve fibres in the optic commissure may arrest the power of conduction either in those fibres upon which the pressure is directly exerted or in those *opposite* to the point of pressure.

The most frequent cause of hemiopic symptoms is, undoubtedly, due to effusion, serous or hæmorrhagic; their effects are usually sudden and may be temporary; but, if correctly interpreted, they may be the precursors and heralds of fatal disease, or serve as parachutes to indicate the direction in which the lesion must be sought; and may also reveal an intrinsic predisposition to repeated and more dangerous extravasations.

The excessively vascular character of the anterior perforated space, and the slight support rendered to the vessels permeating it, in consequence of the disproportionately large orifices through which they pass, confer a strong proclivity to sanguineous extravasations at the lateral angles of the chiasma; the consequences of which are *bi-lateral* hemiopia, which, of all the forms of the affection, is the most frequent.

Tumors also play an important role in the production of hemiopia. These may be cancerous, syphilitic, tubercular or osseous in character; or any neoplasm, the result of inflammatory action, purulent accumulations, free or encysted.

Among the other causes may be enumerated aneurisms, especially of the middle cerebral artery, as the latter supplies portions of each optic nerve, including the optic commissure and optic tracts, as well as the corpus striatum. Tumors of the pituitary gland, and its immediate vicinity, by pressing the commissure upwards, and by impairing its nutrition, also act as an exciting cause in incapacitating the fibres for performing their functions; and also the recessus or cavity discovered by Michel in the corpus callosum, situated directly over the chiasma, which, by its distention from ventricular fluid, may exert serious pressure upon its several angles.

Ludwig Türck has shown that hydrocephalus ventriculorum, due to a tumor or any other cause, may produce blindness by the pressure of the floor of the third ventricle upon the chiasm.

Beers found a considerable spicula of bone at the side of the Sella Turcica, which had penetrated the chiasma in a boy amaurotic.

On the other hand, showing its tolerance of infraction, Graefe records a case in which a gliosarcoma grew *through* the optic commissure, and the adjacent parts of both trunks and roots of the nerve, so that bundles of nerve fibres could not be recognized; and still there had

not been a symptom during life of the existence of intracranial affection.

OPHTHALMOSCOPIC SIGNS.—In all hemiopic affections, it is a notable fact that the ophthalmoscope, whose decisive revelations come often and powerfully to our aid in the diagnosis of many obscure affections of the retina and even of the brain, of which it is but a prolongation for our inspection, contributes but little to our diagnostic efforts; for grave lesions within the hemispheres are tardily reflected by changed aspects of the fundus of the eye; not till after the lapse of several months at least, it may be of years. Six months and even later after the occurrence of apoplexy with hemiopic symptoms, in a patient whose case is related by Knapp, he found nothing abnormal on ophthalmoscopic examination.

Another interesting case is reported, in which hemiopia had existed, when seen, for more than sixteen years, in which atrophy of the nerve fibres of the blind half of the retina had already advanced from the center to the ocular extremity of the optic nerve, while the seeing half of the retina still remained entirely normal. "If this," the author adds, "or a similar case shall afford opportunity of examination by autopsy, it then can unequivocally be determined whether the nerve fibres partially or totally cross at the chiasma."

We now pass to the consideration of phenomena under which the various forms of hemiopia are presented. In each of these forms there is preserved vision of only one-half of the objects towards which the eyes are directed and in the direction designated by the name applied. The defect exists in both eyes, and generally in the same degree. The form most frequently met with is:

1. BI-LATERAL HEMIOPIA.—This is *right-sided* or *left-sided*, according as the right or left halves of each retina retain their normal integrity and function, as upon these portions visual impressions of objects in those corresponding fields respectively are made. *Right-sided hemiopia*

is especially incapacitating, as we read and write from the left to the right.

A case of left-sided hemiopia occurring under my own observation quite germane to this inquiry, is as follows:

CASE.—Thomas Riley is a merchant, forty years of age, of temperate habits, medium height and weight 180 pounds. His father died suddenly from apoplexy at the age of sixty-two years. T. R. states he contracted syphilis eighteen years since, of which he was cured, he believes, no manifestation of the disease having since appeared; with the exception of being visited with severe headaches, he has always had uninterrupted good health. In 1877, without assignable cause, he suddenly experienced partial loss of motion and sensation in the left side and extremities. From this he entirely recovered in a few days and returned to business. During the ensuing three years he had no similar attacks and was also free from headache. In the Summer of 1880 his general vigor seemed to be below par; and one morning while walking to his store, one-half mile distant, he experienced a sensation of numbness of left side, involving the face, arm, body and leg to such a degree that he was compelled to sit. After a brief space he recovered sufficiently to enable him to reach his destination, but in an hour or two he was taken thence to his home. From this attack he did not recover as speedily as on the former occasion. Having subsequently lapsed into a condition of general malaise, and medication, prescribed by his medical adviser, a very discreet and judicious practitioner, failing to restore, the latter advised a season of travel for respite and recreation. By this he was greatly benefited; but about September 20th, hemiopic symptoms supervened, and first while he was at dinner, all objects in the left half of the visual field appeared indistinct. This indistinctness continued to increase up to the time when he first consulted me in November, at which time no object situated toward the left could be seen; but all towards the right, throughout the entire field, were visible. Two objects held side by side in the median line before his eyes at the distance of sixteen inches were distinctly seen; if, however, his gaze was fixed upon the right object and the left object was moved toward his left, it was visible while moving through the first two and a-half inches; it then seemed to enter a penumbra of rapidly increasing density, and then to disappear entirely from view. With the ophthalmoscope, the dioptric media were in their normal condition, and all the details of the fundus, papilla, vessels, etc., were also normal. My diagnosis was that the hemiopia and other symptoms were due to the development of a syphilitic gumma at the right lateral angle of the chiasma, affecting also the corp-striatum and optic thalamus of the right side, the sequel of the syphilitic infection received eighteen years before. By a persistent use of alteratives and a tonic regimen, Turkish and electric baths, continued for two and a-half months, our patient improved in general health and vigor. His visual field increased two and a-half inches to the left of the median line to sixteen inches, and to a greater extent in the lower portions of the same field. Notwithstanding a suspension of active treatment for three months, the visual field had some-

what further increased, and the remaining indistinctness in the field darkened was much diminished, as though undergoing a process of dilution with light.

Dr. Wollaston, three times the subject of left-sided hemiopia, narrates his experience in the earlier attacks :

"I could see but half the face of a man whom I met; and it was the same with respect to every object I looked at. In attempting to read the name 'Johnson' over a door, I saw only the last syllable, 'son;' the commencement of the name being wholly obliterated from my view. In this instance, the loss of vision was towards the left, and was the same whether I looked with the right eye or the left eye. The hemiopia was transient, continuing only about a quarter of an hour."

The cause was, doubtless, temporary congestion occurring at the right anterior perforated space.

Another case of left-sided hemiopia, occurred in

"A man 65 years of age; he felt sick, and vomited. In attempting to go up stairs, he advanced three steps and was then obliged to stop, and fell against the railing of the stairs. With his left foot, he felt as if he was treading upon a sponge. He became unconscious, and thus remained for two weeks. Upon recovering his consciousness, he discovered he was affected with left-sided hemiopia; he could see only one-half of a word and other objects, the right halves of both retinæ being incapacitated. He soon after died, and, upon examination of the brain, the right optic thalamus was found to be the seat of lesion; it was softened, broken down and the neuroglia destroyed; the softening extended up to the ventricular surface, and, doubtless, there encroached upon the right lateral angle of the chiasma.

Dr. Wollaston also relates the case of

"A friend who had suffered pain in the left side of the head, for several days, especially in the temporal region, and in the back part of the eye. Three or four weeks later, right-sided hemiopia supervened, attended with other symptoms, indicating some degree of cerebral compression. He sees *what* he writes, but not the *hand* that wields the pen."

Here was insensibility of the left halves of each retina; the affection was permanent.

2. TEMPORAL HEMIOPIA; or, that form of the affection in which the temporal halves of each retina retain their sensibility and function, while the visual fields to the right and to the left are darkened.—This form is occasioned, by pressure upon, or disturbance of, nutrition in the optic nerve fibres forming the *anterior angle* of the chiasma. All the resulting phenomena, however, are alike explainable by either theory of decussation, partial or total.

Schön relates a case which he had

"Observed for 14 years, and was remarkable on account of the fluctuations of the visual field. At one time he saw only the right half of fixed objects with his left eye. This disappeared after treatment, but soon re-appeared in both eyes. So that when one eye alone was used, the half only of an object was seen; but when both eyes were used the entire object became visible; the paralysis corresponding to the inner portion of both retinae. His condition remained unchanged for a year. He subsequently became entirely blind. After his death, a sarcomatous growth was found in the anterior angle of the commissure, which, by gradual development, ultimately produced complete amaurosis."

Dr. Sæmisch also reports a case:

"A man, 23 years of age, after suffering from progressive impairment of vision for three weeks became totally blind. From this condition he partially recovered, but temporal hemiopia was present, the outer fields of both eyes being invisible. During the following year he in some respects improved, but subsequently became amaurotic. Having been attacked with typhoid fever, with symptoms of acute meningitis, he died. Upon post-mortem examination, a vascular sarcoma as large as a pigeon's egg was found between the optic nerves in front of the chiasma; from this tumor, when incised, an ichorous, bloody fluid escaped. There was also a still larger tumor of same character, containing bloody cysts, pushing the dura-mater upwards under the pons. Both optic nerves had undergone fatty degeneration, and here and there in the neurilemma were found nuclear proliferations."

The prognosis in cases of temporal hemiopia is less favorable than in those of the bi-lateral character.

The only form of hemiopia remaining which we shall notice is:

3. NASAL HEMIOPIA.—Of this form but few cases have been recorded. It is characterized by obscuration of the central visual field; objects situated therein cannot be seen, since the optic nerve fibres supplying the temporal halves of both retinae are deprived of their normal function. This form is occasioned by the existence of an effusion or a neoplasm situated at the posterior angle of the chiasma, and exerting pressure thereon. Mandelstamm reports two cases of nasal hemiopia, and, as the cause,

"Assumed the presence of tumors, having their seat in the median line at the base of the brain or higher up in the hemispheres; and asserted, no matter *where* the morbid process may have its seat in these and similar cases, it never could, in case *semi*-decussation existed as a matter of fact,



destroy *simply* the function of those nerve bundles of the optic nerve which were given to the outer halves of the retinae."

In a case reported by Wagner and Schmidt:

"A tumor was found springing from the middle line of the brain at the posterior angle. The infundibulum, fornix, (septum lucidum)—parts which press upon the posterior angle of the chiasma, or at least, *when* exercising pressure upon the chiasma, chiefly act upon its posterior angle—were above all affected; in consequence of which, the nerve fibres given to the outer halves of the retinae were functionally incapacitated and nasal hemiopia was the result."

The theory of partial decussation will compel its advocates to suppose in this form of hemiopia, the simultaneous existence of efficient causes on both sides of the brain, exerting an influence on the lateral fibres *only*, supplying the temporal halves of the retinae, in such manner and degree as will annul their conducting faculty; which figment of the imagination is extremely improbable and incredible. Nasal hemiopia is, therefore, inexplicable on the theory of semi-decussation, but readily and naturally on that of total decussation at the chiasma. Von Graefe, himself the greatest luminary of ophthalmological science of any period or country, adhering to his belief in the hypothesis promulgated by Newton, re-affirmed by Müller and others, yet declared himself *incapable* of giving an anatomical explanation of nasal hemiopia occasioned by cerebral causes.

That which I have attempted to prove may be formulated as follows, viz: 1st.—Disorders involving the optic tract of *one* side will produce total blindness in the eye of the opposite side, and not bi-lateral hemiopia. 2d.—Diseases affecting either lateral angle of the chiasma, involving both the optic nerve fibres entering and also those leaving it, will produce bi-lateral hemiopia, and not nasal hemiopia in one eye. 3d.—Diseases affecting the posterior angle in the median line, involving the optic nerve fibres of both tracts that enter the chiasm, will affect the outer half of each retina and produce nasal hemiopia; a form utterly inexplicable on the theory of semi-decussation; and finally: 4th.—Diseases in front of

the commissure will affect the inner halves of each retina and produce temporal hemiopia; a condition alike explicable on either theory.

In regard to this mooted question the oracular affirmation of Mandelstamm is very significant:

"No facts yet contra-indicate the doctrine of total decussation; but anatomical investigation, physiological experiment and clinical experience harmonize to confirm it."

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### Art. III.—What Shall We do with the Inebriate?

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THIS was the title of a paper written by a very able physician, and published in a popular review in New England in 1858, in which inebriety was emphatically declared to be always a vice and sin, the treatment of which consisted in a more rigorous enforcement of the law, and severe punishment in every instance. A clergyman, who reviewed this article at great length, endorsed its sentiments, and urged the additional means of conversion, which he claimed would cure every case. This article, and its review, passed into literature as an authoritative discussion and answer to this question. Years after, it happened that both persons met in an inebriate asylum—the doctor, to visit his inebriate son, who was an inmate of the institution; the clergyman, to receive medical treatment for both the alcoholic and opium disorder. Thus, when this question demanded a practical solution in their own family circle, all previous theories were radically changed. In 1868, a very prominent physician and medical writer refused to aid in the building of an asylum, by either his influence or money, denouncing it as a humbug, and unworthy the name of

science. Five years later he brought his son, a chronic inebriate, to this asylum for treatment, and warmly urged all means to sustain it. Later, his son relapsed, and reported the most extravagant stories of his freedom in the asylum to get all the alcohol he wanted. This the father believed, and became a bitter enemy of the institution. The death of the son, from delirium tremens, increased his enmity, and, to-day, he condemns physical means and appliances to cure inebriety, as exploded absurdities of the past; and a large circle of medical friends accept this as a final statement of facts. This illustrates the position of many of the profession. The public have assumed that inebriety is purely a vice, and can be reached only by moral and legal appliances. The great religious movements that are sweeping over the country, with their thousands of enthusiastic reformers, are urging this view as the only one that will reach the inebriate. To-day, in all the discussions of the effects of inebriety and its presence, the same remedy is urged, and, stranger than all, is accepted by many scientific men. The failure of the medical profession to study the nature and character of inebriety has opened wide the doors for a vast army of reformed inebriates and clergymen, who, in the most extravagant and dogmatic way, are instructing the public what inebriety is and how to manage it. In 1867, Dr. Parrish asserted that inebriety must be regarded as a disease, and treated by physical means; a fact that *Vulpian* had urged fifteen centuries ago, and which had been endorsed by leading men in every century from that time down; and yet the religious press sent up solemn protest against the admission of such unholy doctrines. Even the superintendents of some of the insane asylums joined in denouncing the disease theory; and, to-day, the unfortunate remark of Dr. Bucknill, regarding asylums for inebriates, "that they failed to cure a disease which did not exist, by remedies which were not applied," is accepted by many as authoritative. In the future, the student who examines the history of medical progress of this

century, and notes the extraordinary activity and practical character of all studies into the causes and prevention of diseases, will be amazed to find that inebriety was hardly recognized; also, that its study and treatment was left almost entirely into the hands of clergymen and inebriates themselves. The grim necessity for a practical answer to the question, "What shall we do with the inebriate?" is manifest in the great activity of temperance societies, churches and other efforts, not founded on scientific study or research. As an illustration glance at the temperance literature, filling whole libraries, and represented by hundreds of papers, all discussing and approaching inebriety from a moral standpoint; accounting for the presence of one hundred thousand inebriates, through original sin, and a vicious element in the moral nature of man; ignoring the existence of the great natural and physical laws controlling the body and mind. While the medical literature of inebriety, could all be put on a small table, and is represented by only one journal; which, nevertheless, is full of promise, and distinctly marks a new era in the field of psychological literature. Already, the disease of inebriety is clearly outlined, and the vast chains of conditions and causes stretch out into wide, unexplored fields, that are governed by laws which will be clearly understood in the future. This great army of inebriates, projected from the front line of civilization, extending back through all grades of society, are but the victims of physical causes, and the results of conditions which await further study. Such study must be thorough and exhaustive, and include all the conditions of inheritance and surroundings of mental and physical life, and of the time and circumstance of the first toxic use of alcohol. From these facts will appear some of the laws which control the development and progress of this malady. The following statement will represent the problem in its general bearings: Among all classes, and in all sections, are found men and women who persistently use alcoholic drinks to excess; suffering, both directly and indirectly, in health, character, position, also

in social and pecuniary interest. This they continue to do, against all motives of self-interest, influence of others, and considerations of right and wrong, either slowly or rapidly going down to ruin and death. Through all this there is an appearance of health, and often a keen recognition of the situation, but rarely any successful effort to recover. Looking at these cases more closely, they seem to begin in some regular order, and follow a line of conditions and circumstances that are more or less uniform; that is, we may recognize a general chain of cause and effect, and note a continuous progress in each case, which is parallel. This suggests a physical origin, and if we make a record of the symptoms of two cases, as seen month after month, a more striking similarity will appear. Not unfrequently this is so marked that we can predict, from some general knowledge of the patient, much of the future progress of the case. As an illustration of the uniformity of the symptoms and progress, the following study is given of two ordinary cases, which differ in no way from many others:

## CASE 1.

A farmer, 25 years old.  
Began to drink suddenly.  
Inherited nervous diathesis.  
Probable active cause, obscure injury and overwork.  
Drinks steadily to excess.  
Delusions of strength to stop at will.  
Boastful and extravagant in speech.  
Habits became irregular.  
Manners changing.  
Morose and untruthful.  
Very suspicious.  
Melancholy and suicidal at times.  
Unusual violent temper.  
Extreme sensitiveness.  
Both complain of the neglect of friends to aid them by not concealing their true condition.  
Both make fitful efforts to recover and then sink back to worse conditions.

## CASE 2.

A clerk, 34 years old.  
A long stage of moderate drinking.  
No special history of heredity.  
Active cause, general irregularities and bad living.  
{ Drinks irregularly and at times to excess.  
{ Same delusion.  
Very egotistical and self-conscious.  
Works spasmodically.  
Losing pride in appearance.  
Untruthful, rude and hilarious.  
Alternately suspicious and credulous.  
Depressed and often exhausted.  
Very quarrelsome.  
Afraid of insults and sneers.

Long distinct free intervals of sobriety.	No free intervals.
Sudden and prolonged intoxication.	Intoxicated only at long intervals, but always drinking.
Both came under treatment in an asylum, and both relapsed after being discharged.	
Later failure of mind.	Mind full of delusions of wealth, and great plans for the future.
Religious melancholy.	In an insane asylum with general paresis.
Death from Pneumonia.	

In this very general study of two cases, there is clearly a uniformity of symptoms and progression although from widely different causes and circumstances. The form and character of the degeneration in inebriety will be found to be very closely related in all cases, and to follow a natural course from stage to stage. It may be stated that a careful study of every case of inebriety indicates certain conditions of body and mind, which either intensify or antagonize the development and progress of this disorder, also the special remedial means which may conduct the case to recovery. No application of means or remedies that are not based on these facts, or that do not recognize the physical changes which have taken place, will give any promise of permanency in the treatment. Here, as elsewhere, we must recognize the causes, before any intelligent treatment can be applied. In inebriety we have two prominent factors always present in the causation of each case. The first and most prominent to the general observer is alcohol; this may be both a primary and secondary cause, but in either case there are certain pathological changes always present during the progress of the case marked by certain fixed symptoms, that rarely vary or change. The second are the conditions of degeneration, either inherited or acquired, that are present before alcohol is used, and break out into an inordinate desire for alcohol, or conditions of exhaustion, for which this drug seems to give relief. In the former case where alcohol appears to be the primary cause, there will be found many complex conditions; pathological changes coming from the different alcohols, that are practically unknown.

Recent studies have shown that the toxical action of different alcohols depend upon the kind of alcohol, the substance from which it is made, and the process of manufacture also the natural chemical combinations which follow after its manufacture. These different alcohols when taken alone produce different physiological effects on the body. For instance, one form of alcohol will cause profound stupor, another will produce intense hyperæmia of the brain and delirium, a third is followed by muscular tremors and reduction of temperature, &c. The study of a few of these alcohols seem to indicate that each one alone, has a special physiological action over the brain and spinal cord. If we consider the almost numberless forms of alcohol, and their equally complex combinations in the various forms of drink used, and the still more uncertain physiological actions on the body, the magnitude of the subject will be partially seen. Practically, from this we may realize some of the many causes, which result in inebriety. And the only wonder is that the effects of alcohol are not more pronounced and fatal in each case. In the second factor are conditions of degeneration, either inherited or acquired, present before alcohol is used, which develop into inebriety, or produce conditions of exhaustion, for which alcohol seems to give relief. The active causation of inebriety, from inheritance, appears either in a direct or indirect form. In the former, it follows directly from father to son, or from family to family, and is manifest in childhood by a perverted brain and nerve force, and disturbed functional activities. In the latter, it is often more remotely inherited, as from the second generation back, and breaks out from the application of some peculiar, exciting causes. Next to inheritance, directly from inebriate ancestors, are degenerative conditions of the organism, following all the various forms of insanity and epilepsy; also consumption, and many of the nervous diseases noted by intense exhaustion; all these transmit a diathesis to the next generation, which often appears in inebriety. Another

series of causes will be found in the bad and imperfect nutrition of childhood. This period of life, between four and fifteen years of age, is often the starting point of inebriety. The nutrient degenerations, from both the quality, quantity and irregularities of food, also overstimulation of the brain and nervous system, break out in inebriety, in manhood. Again, we shall find climate, occupation, education and surroundings active causation which enter into many cases, modifying and changing the progress materially. All these factors are more or less present, and enter into the causation of nearly all cases of inebriety. Up to this time, no studies have been made in this direction, and the general term of "vice" has been given to every obscure symptom of inebriety. Inebriety not only appears as the result of perversions and degenerations of the brain and nervous system, following the direct use of alcohol, but it is often a symptom, and follows other diseases as a hint of degeneration in certain cortical brain centers, notably in general paresis, epilepsy, tumors of the brain, and reflex irritations, dementia and melancholia, etc. Inebriety not unfrequently merges into acute mania and other diseases, which pass rapidly to a fatal termination. The range of causes in inebriety are very complex, involving many conditions that require careful study, from a scientific standpoint.

The special question of our discussion resolves itself into two general facts: First, The special appliances and methods of treatment which are indicated by the present study of inebriety, as successful in the cure of these cases. Second, Preventive measures and hygienic means that will lessen the number of persons who suffer from inebriety. First, No matter what the real cause may be, we must recognize the presence of alcohol and remove it; for the practical fact is, that the use of this drug in toxic doses, or continuously, causes tissue degeneration and starvation, and this interferes with the process of absorption and elimination, thus breaking up all chemical changes in the body. This may go on for a



long time and without marked evidence of the real condition. If the patient cannot be treated at home successfully, he must be removed to some asylum or hospital or properly quarantined, until positive seclusion from this cause can be obtained. Alcohol always masks and covers the real condition of the patient, and its withdrawal reveals the long train of causes that enter into the formation of the case, permitting more exact studies into the nature of the disorder. No case can be treated unless absolutely removed from alcohol. This can be most effectually done in a special hospital for this purpose, where legal restraint can be combined with surroundings to make it exceedingly difficult to procure spirits. After the removal of alcohol, the sanitary surroundings of the patient demands attention. From whatever circle of life or social condition he may come, there will be found a general neglect of all healthy habits of living and exercise. All regularity of work and proper care of the body, inordinate and insufficient food, want of bathing, ventilation, rest and all the many conditions which enter into healthy activity of both body and mind, require careful regulation and treatment. If this cannot be done elsewhere, it must be in special hospitals, conducted in the most methodical and hygienic manner. Not only the location, but the building must afford every facility to bring the best conditions of health. It may be large or small, situated either in the country or suburbs of city, but it must combine seclusion from alcohol and the best sanitary conditions for restoration. Residence in such a place must be positive and exact, and not depend on the feeble will and impulse of the patient. The duration of this residence should depend on circumstances and the history of the case. The legal principle which should apply in these cases is that whenever any person by the excessive use of alcohol, not only injures himself, destroying his property, but perils the rights of others, and the good order and harmony of society; he should be restrained and forced to adopt such measures as will lead to a speedy

recovery. He is for the time substantially irresponsible and incapable of exercising full liberty of choice, and should be treated the same as a small-pox case, or a suicidal mania. If he will not go voluntary into the special surroundings necessary for health, it is the duty of his friends and society to force him to do so. The question is not of the degree of responsibility or capacity for self-restraint, or of the moral state of the patient's mind; but the immediate means to meet the demands of the case. On the same principle that the surgeon when called to treat a fracture having first ascertained the kind of injury, uses the exact appliances to meet the case without regard to other causes which may have been present. In special hospitals the study of inebriety can be conducted with much accuracy, and all the many symptoms which distinguish it as a disease pointed out, and their proper treatment more positively ascertained. The application of the principle of rest in the treatment so essential, can be more thoroughly carried out here, where all the surroundings are under the control of the physician. Nervous exhaustion is more or less present in all cases. The application of rest to both mind and body requires a nice adjustment of means and remedies based on an accurate study of the wants and history of the case. For instance, a patient accustomed to active brain labor, needs a different kind of rest from the gross lethargic case, that has but little mental exercise. The one gets rest from diversity, the other from quiet and regularity. The treatment by rest enters into all the conditions of functional and mental living. The inebriate hospital should be a rest cure in its broadest scientific sense. Turkish baths are undoubtedly the most valuable medical means to rouse up the diseased organism; they seem to have a marked power over the vaso-motor paralysis, and increase the eliminating process of the skin, &c. Electricity and bitter barks, also arsenic and strychnia, are of great value in certain cases, while the bromide chloral and others depressants should be given guardedly, and not without positive indications

of their necessity. The common practice of treating patients at home by such chemical restraints as may be obtained from chloral, bromides, opium and other drugs of this character is excessively dangerous, and always prolongs the duration of the disease, increasing the organic degeneration and making recovery more difficult. In two cases which came under my care, one for chloral, and the other opium inebriety, the origin was evidently from the use of these drugs to relieve the effects of excess of alcohol. The use of such narcotic drugs in inebriety should be contra-indicated, as a rule, from the natural tendency of this disorder to merge into diseased cravings for these substances. A physician whose son had been under treatment at Binghamton asylum for dipsomania, and had relapsed after being discharged, commenced active treatment by chemical restraint at home when the attack came on. By profoundly narcotising the patient on the appearance of the attack, and keeping it up until the paroxysm was over, he was prevented from using alcohol. The physician was delighted and rushed into print, in an article, to show that inebriety could be successfully treated at home by these agents. Two years after this son was sent to an insane asylum demented and idiotic, and the history indicated clearly that bromide of potassium and chloral were the active causes.

The inebriate although appearing to be in possession of his mind, will always be found on the other side of that mysterious border-line of mental health. The ego is always very active, and delusions of strength and capacity to endure and recover are present to the last moment of existence.

The inebriate in the lowest chronic stages, with the adverse experience of twenty years, will talk and act confident in his ability to stop the use of alcohol absolutely at his pleasure. Alcohol seems to act on some cerebral centers of the brain, causing what is variously termed moral paralysis or degeneration. Marked first by false reasoning on matters of right and wrong, and

timidity of character. Then a general progressive degeneration of all the higher elements of manhood, also confused efforts to conceal his motives and character behind a mask of deception and intrigue. Prevarication, want of veracity, slandering and decline of pride with impulsive selfishness, alternating with unbounded benevolence, may be noticed in every case. These mental symptoms rarely attract attention until the case has become chronic, and even then are not observed only by his most intimate friends. In all these cases the mind needs treatment as well as the body. An asylum that will provide immunity from alcohol with good surroundings and rest, must bring mental appliances that will reach these obscure psychical conditions. Of these, restraint is important, not the bars of a prison or the control of an insane asylum, but a combination of the two applied at times with military exactness, and alternated with freedom. Each case should be governed by conditions and circumstances which depend on the history and causes. Often restraint is injurious and the direct cause of mental irritation that may bring on a relapse; again it is a powerful stimulus rousing up the feeble will and debilitated organism into a healthy activity. It may be termed either an irritating depressent, or a stimulating tonic, and its proper application of this means is a valuable remedy. Some of the many complex conditions which enter into this question of when, and how far active restraint may be applied with benefit to the case, will be better understood in some illustrious cases.

CASE I.—An Irishman and farmer, who had, in all probability, inherited an insane neurosis, having drank, irregularly, from fifteen years of age. At thirty, he was a periodic inebriate, with free intervals of three months. These paroxysms came on from some unexpected condition, usually intense depression from some external cause. In one of these paroxysms he was brought to the asylum, and was filled with delusions of the bad motives and purposes of his friends. For some days he suffered from muscular agitation and extreme restlessness, then recovered. For weeks after, he was pleased to be restrained

and watched; said he felt more secure and confident of recovery by this means. Four months after admission, he complained of this restraint, and wanted full liberty to go and come. This was denied on general principles. He then became suspicious, and attributed this refusal to the worst motives; was alarmed and went about in a dazed, restless manner. The watching and restraint was increased under the impression of the return of paroxysm of drink. At last he escaped, at the risk of his life, by climbing from the window of a third story, and drank very seriously. He was returned in a few hours, and recovered without any noticeable incident, submitting very cheerfully to all the restraints of the institution. Two months later, he began to complain, as before, of the confinement and watching. As an experiment, he was given full liberty within certain limits, only required to be exact in observance of all other rules. His mind seemed at rest, and he continued a most cheerful, exemplary patient for six months, until discharged. During this time, he remained in bed for a day or more, on several occasions, giving, as a reason, a feeling of uncertainty and depression—evidently a premonitory symptom of the paroxysm of drink, which yielded readily to quiet and medicine. At this time, two years later, he is in good health and active business. Here, it was clear that restraint, beyond a certain limit, was irritating and injurious. The freedom of the will acted as a tonic, giving him greater vigor and capacity. He was repeatedly watched in conditions of temptation, and always manifested strength and vigor.

CASE 2. Illustrates an opposite condition, demanding continuous restraint. B. was a graduate of college, and lawyer of much eminence. For some constitutional debility in childhood, he had been given wine and beer for years, daily. Epilepsy, catalepsy and consumption had appeared in various members of the family, both in present and past generations. During college life he was intoxicated frequently, and at twenty-five he drank, steadily, beer every day. At thirty-two, he was brought to the asylum an impulsive inebriate. Drinking to intoxication every week, or oftener; depending on circumstances, and using some form of spirits every day. He was suicidal, and suffered from intense depression, with general muscular exhaustion. His mind was impulsive and full of delusions of either extravagant hope or abject despair. He recovered with firm convictions, and very earnest protestations

that he would never use alcohol again. At times he complained of the restraint as being unnecessary, but submitted quietly, although very emphatic in his thorough recovery. After three months treatment, he relapsed from the most trifling temptation, and from this, during his entire residence of a year and a-half in the institution, he could not be trusted a moment, but would procure spirits under all circumstances, and at all times, although seemingly the soul of honor and honesty. He would apparently regret having fallen at the time, and seemed anxious to avoid any temptations in the future, but soon after display intrigue and cunning to procure spirits with every opportunity. He drank on being discharged, and continued up to his death, a year later. This case needed the restraint of a military asylum, controlling all the little events of every-day life, and the more exact and complete, the better he would be.

A third case is given as combining many of the characteristics of both :

CASE 3. Was a merchant, forty-six years old, who was an accidental inebriate. That is, he used alcohol only to relieve conditions of exhaustion and excitement that came on suddenly. After a few weeks residence in the asylum he became impatient of restraint and was allowed to have a certain amount of liberty, which he soon abused and relapsed. Four months of careful restraint followed, and he was given liberty again ; two days after he was so much agitated that he was again restrained. From this time and during six months treatment, alternate restraint and freedom were given him, depending upon his mental and physical condition. If he was restless, irritable and nervous, careful watching was instituted, but if he was cool and quiet, he could go about with safety. Great care was given to have him under observation, in the afternoon and at night, as these were considered dangerous periods. This patient is now doing well, and is a good example of the indications of treatment from a thorough study of the case.

Continuous restraint and unlimited freedom were both contra-indicated from a clinical study, but the wise application of each was found to be absolutely essential in the treatment. This is undoubtedly a means of treatment which should be used with the same discretion and judgment as medicines. In the practical application of the treatment

of these cases in an asylum, three distinct classes will be found.

The first class is probably most prominent of all others, and are found to be deficient by inheritance. They have an exceedingly low sense of duty, and conceptions of right and wrong. Very frequently they display distinct criminal tendencies, associated with weak will and low passionate impulses. As inebriates they need sharp, active discipline and exact military surroundings, regulating every duty and act of life. This continued for a long time in an asylum with medical treatment, gives much promise of permanent cure. After two or more years in an asylum, if they can be placed in some position removed from all general temptation, and actively employed for a long time, their restoration is assured.

For a long time these cases have been regarded as types of all inebriates, when, literally, they are simply strongly marked cases of defective brain and nerve force, alternately criminals, insane and inebriates, from accident and circumstance. They are freighted with a peculiar diathesis, which breaks out into either criminality, insanity, inebriety or trampism, or one or more together, depending on circumstances, and are always more or less incurable. Superintendents of insane asylums, and judges, have based all their conclusions of inebriety from observations of this class. In the insane asylum they are the most troublesome of all cases; in the courts they are the repeaters, that are sent to jail regularly for intoxication; and, in all circles, they are the pests of society, continually drinking, committing petty crime, and outraging society by all kinds of excess. In inebriate asylums they abuse all the privileges, and bring every effort to help them into discredit. Injuring the other patients, and continually keeping up an atmosphere of insubordination and irregularity. When discharged, are full of slanderous stories about the asylum, and stand around the corners of streets advertising the failure of the institution to effect a cure in themselves. The State of Connecticut has char-

tered a company to organize and conduct an asylum work-house for this class, which will provide active work, sharp restraint, with medical care, and educational influences; not with the idea of permanently curing these men, but to relieve community of their presence, and make them self-sustaining. The law provides that such cases may be sentenced to inebriate asylums for a period of three years. After the first year they may be released on parole at the option of the managers. The building is not erected, only a farm has been bought for this purpose, but the plans and much of the preliminary work has begun. On simple, economical reasons, the value of such an asylum is apparent. Some of these cases are permanently restored in the imperfect asylums of to-day. Inebriates of this character are reported cured from long confinement in many of the English prisons, under adverse conditions, and without anything but absolute control and regularity of surroundings. In a military work-house, can be combined all the means and methods of treatment which are especially applicable to such cases. This class of inebriates are universally misunderstood, and never studied clinically; yet they will be found to have a distinct cause, development, symptomatology and termination. Nothing is more erroneous than the very common expression of the incurability of inebriety, based on empiric efforts to cure the criminal or insane inebriate, by means that are not only inadequate, but unfounded on any knowledge of the nature of the disorder. I protest against all deductions as to what inebriety is, and how it may be treated, founded on a limited observation of such cases, which are always exaggerated types. The second class of inebriates, who come for treatment, are less prominent, and are the victims of circumstances, and some accidental causes not understood. They come from the middle classes, and represent the hard working, active brain-labor of the country. Heredity is always more or less obscure, and usually the history of nervous and constitutional disease is not in the direct



line of inebriety, but in some collateral branch. They are particularly noticeable from the prominence of delusions of strength to stop all use of spirits at their pleasure. Yet they never do, notwithstanding all their past failures, insist, with earnestness, that they have the full power and capacity to recover. In these cases there are general conditions of ill health present, such as general exhaustion, anæmia, neuralgia and functional disorder of the heart and stomach. Injuries of the brain and spinal cord, profound shocks from both mental and physical causes, sunstroke, and exhausting diseases can be often traced as the active causes in many cases. Dr. L. D. Mason has recently published some very significant studies into the causes of inebriety, which indicates how much of this subject is almost entirely unknown. This class will be found to represent an average physical and mental capacity, with, not unfrequently, great activity and ambition to attain either wealth or distinction in life. From various circumstances, depending on ill health, irregularities of living, bad surroundings, over-work, mental worry, and many other causes, the use of alcohol commences as a temporary relief, and culminates in a toxic condition or intoxication. From this time, pathological changes begin, and alcohol is demanded ever after. After a period of constant use of alcohol, they frequently merge into periodic inebriates, with a free interval of more or less uncertain length. Many of these persons are strong temperance workers in the free intervals, and appear to be in good health and in full possession of their will-power. To their friends they are enigmas, and seem to be under control of an evil spirit, and are never able to understand why or when they will drink. These are literally very hopeful cases, even in the chronic stages, and when they remain a long time in the asylum, recover. I think that a very large per cent. of these cases can be permanently cured. They need, most of all things, seclusion from alcohol, and physical rest, also

change of life and activities, with long continued hygienic and medical treatment to build up the system. These are the cases which get well all unexpectedly; from no special means other than the will to do so. They are often the shining examples of prayer-meetings and temperance societies, and seem to relapse and recover in the most mysterious, uncertain manner. In the asylum treatment of these cases great care is necessary in the matter of restraint and effort to keep the mind occupied all the time. Each case demands special conditions and methods of treatment, which shall educate the patient's mind, and teach him to observe the utmost regularity in all habits and duties of life. After treatment in an asylum, such cases need a change of labor and living, also freedom from excitement or long continued, exhausting work. If the mind can be kept active and buoyant, the vigor of the body is sustained. Such cases cannot be treated at home, under any circumstances, but must have both change of life and surroundings.

A third class of inebriates differing from both of the others mentioned and equally prominent are always seen in the asylum. They are noted for the exhibitions of great extremes of strength and weakness. The patient will stop the use of alcohol at home suddenly, and under the most adverse conditions come to the asylum, either alone or with his friends, and give strong evidence of great earnestness and honesty of purpose. On the way to the asylum he will pass through great temptations and never touch spirits; but in one hour after arrival, he will plan and execute the most cunning schemes to get spirits. He will exhibit at times a kind of a malicious mania for alcohol, and then be bowed down with the greatest contrition and sorrow, and do all that is possible to repair the injury. Unlike the class last mentioned, there will be found a certain method in both his relapses and recoveries, that to many will seem exceedingly suspicious. This class always inherit an uncertain nerve and brain condition, and come very often from intellectual and

hard brain workers. Politicians, lawyers, editors, brokers, railroad men, and over-worked clergymen contribute the largest number of descendents to this class. They usually possess a degree of talent that borders on genius or madness, and seem to have no fixed principle or purpose in anything. They often come from wealthy, luxurious surroundings, suffering in childhood from bad food and no training, and general imperfect physical growth, nervous excitement in early life, wine on the table, surfeit of food and many other causes which break up natural healthy growth. I have traced the early causes of many of these cases to nervous shock and exhaustion at puberty from the first sexual act. A condition of feeble reaction from any kind of exhaustion is always present, and wine and spirits are used to counteract this effect. They are always filled with the delusion that the moderate use of alcohol is a normal healthy state, and all their ideals of life center on this condition. In the early stages they are constant drinkers, but later when more debilitated, are impulsive, irregular inebriates. In some cases a wonderful power of self-control is seen, which seems to be of the nature of paralysis, by which the patient will unexpectedly stop all use of alcohol and go about in the worst conditions of temptation for a long time; and the only explanation which he gives is, that he has made up his mind to drink no more. A remarkable example of this was seen in the history of Judge Raymond. When thirty he was a confirmed inebriate, and given up by his friends. All unexpectedly he resolved not to use alcohol again until he was seventy years old. From this time on he was a strict temperance man, and finally became a judge, and was a very eminent and exemplary man. On the morning of the seventieth birthday he became very much intoxicated, and died two years later of delirium tremens, having drank in the meantime almost constantly. These cases are frequently marked in the later stages by delusions or suspicions of injustice from their nearest friends. Extreme degrees of

mental and physical exhaustion characterize the case in its later stage. In treatment, the necessity for absolute quiet and rest with extreme regularity of surroundings and varied restraint are apparent. This class are for a long time irritable and fault-finding, but seldom are unmanageable. They enter heartily into all plans of treatment for themselves, and although they will sympathize and plan to get alcohol for the newly arrived patient, yet never touch any themselves. They are often very emotional and deeply religious, and recover readily in ordinary asylum treatment, but seem to be influenced by circumstances and health more than the other classes. Their ultimate recovery depends on complex conditions, which are largely unknown, and are always questions which the intimate study of each case will determine. In this class I have seen less complicating diseases, and been able to trace a range of connected symptoms from the beginning to the end in many instances. The study and successful treatment of these cases can only be assured in well-ordered asylums. In this very general description of three classes of inebriates, which appear in every study of this subject, the varied complexity of the causes requiring special means are apparent. No question of treatment or means to lessen the number of inebriates can be determined except from a clinical study. Inebriety is curable to a large degree, and if taken in the early stages, recovery would be the rule, and failure the exception. Even now many chronic cases, under adverse circumstances, recover permanently, and nearly all are largely benefited by asylum restraint and medical care. Inebriety will be no mystery when we shall understand its nature and causes, and its treatment will be no doubtful matter when we can classify and treat each case according to its special demands. We have indicated that inebriety can be reached most successfully: *First*.—By isolating the patient in a special home or hospital, where all his surroundings can be under the care and control of a physician. *Second*.—Here a

special study of the case will reveal the minute chain of causes which have increased or directly brought on the the disorder. *Third.*—From this study will be marked out the particular treatment essential to the cure in each case. The second general fact covers all those preventive measures and hygienic means that will lessen the numbers of persons who suffer from inebriety. Inebriety is both endemic and epidemic. In the former it is incident to our times and civilization, following the intensity of American life and the revolutions of society, which spring from new inventions, with new and constantly changing conditions of living. The type is also different, notable in the precipitation and rapidity of process of degeneration and exaggerated emotional symptoms always present. Very many forms of mania and delusions in inebriety seem almost peculiar to this country. Inebriety is also epidemic, and moves in cycles and waves, appearing in certain towns and cities, and for a few years raging with great intensity, then dying away only to re-appear after a certain interval. In a New England village of a few hundred inhabitants, twice within eighty years inebriety has been noted for its prevalence. Following these were distinct seasons of great freedom from its presence. Records of police courts show this fact quite distinctly. In frontier towns this epidemic character of inebriety is also apparent. Further studies of the social progress of the age will point out some of the many causes which gather and break out into inebriety, developing through different stages, then declining to almost extinction. The rise and fall of great temperance movements are but ripples on the surface of these tidal currents of inebriety. Inebriety will follow certain conditions of living in society, and in the individual, with the same certainty that the plant comes from the seed. It is always epidemic when the causes are in the surroundings and social conditions, and clearly follows a certain course to extinction. In the individual or family it may remain long years, or

one or two generations but through the wise limitation of nature, change and extinction always follows. In the almost unknown field of prevention, the study of heredity meets us at the outset. Already we have found certain inherited conditions extremely favorable to the development of inebriety, and in such cases may expect, with much certainty, the appearance of this disorder. Applying these and other facts, we shall be able to prevent it, and not only antagonize, but remove many of the active causes. From this study we shall learn what special appliances to use and how to conduct the treatment, so that restoration will be permanent; also, to be able to distinguish between the incurable and curable conditions. My studies into the causation of inebriety has pointed to childhood as a period of extreme susceptibility to this disorder, which may break out in manhood, or later, from the application of peculiar exciting conditions. I am convinced that, at this period, perversions of nutrition, defects of digestion begin, which become the starting point of inebriety. Children that are over-fed, using food far in excess of the wants of the body, or food that is defective in some quality, always have a starved, defective organism, whose functional activity is perverted and irregular. Over-stimulation of the digestive organs, during this period of growth, is followed by exhaustion and demands for relief, which alcohol seems to meet most readily.

The children of the the very poor, and very wealthy, are subject to constant irregularities of hunger and satiety, and inebriety is often but an expression of the injury which follows. The prevention of inebriety should begin with a study of the diet, and nutrition of the tissues in childhood, and the removal of every obstacle to the healthy growth of the body. Every condition that perverts or prevents this healthy growth favors the development of both functional and organic disease, of which inebriety is prominent. Want of education and general training, which shall extend to purposes and objects of

life, very commonly develops inebriety. The child grows up with all its faculties undisciplined, every emotion and appetite indulged in, with no motive except the gratification of every physical want, all the passions constantly stimulated, and in an atmosphere of unhealthy excitement, inebriety is a natural sequence. I have no doubt that the present system of education, particularly over-stimulating the brain and nervous system in bad sanitary surroundings, to the neglect of the physical growth of the body, which ends in both physical and mental dyspepsia often lays the foundation for inebriety. This is verified in any general study of the health and mental condition of college and high-school graduates. The unnatural and perverted tastes, and feeble will power, with ignorant eccentricities often seen in this class, are the fertile fields which need only the exciting cause to break out into this malady. Certain seasons of the year, marked by sudden climatic changes, and certain kinds of labor noted by extremes of excitement, muscular activity and exhaustion, also all bad physical and social surroundings, are among the predisposing causes which must be removed and studied in both the treatment and prevention of inebriety. The early treatment of inebriety will be practically the most active source of prevention. Remove the patient from his dangerous surroundings, and effectually quarantine him, with the first intimation of the disorder, and his cure is assured. Neglect this until he has become chronic, and the difficulties are increased, also the possibilities of cure diminished. No other disorder is more difficult to cure in its chronic stages. The public mind must outgrow the crude notion that inebriety implies vicious weakness on the part of the patient. They must realize that he is but the victim of physical laws, whose violation must be paid with great exactness. Dyspeptic persons should never use alcohol as a medicine, or any form of bitters which contains spirits. Epileptics, hysterical persons and those who suffer from nervous injury of any kind, such as shock to the brain from sunstroke,

violent concussions' of the system, followed by symptoms of headache and any disorder of the spinal cord, should never use alcohol in any form. Exhausting diseases and conditions of extreme anæmia, and all the forms of inflammation of the mucous membrane of the stomach and bowels also contra-indicate the use of this drug. In many cases the free use of ice-water has produced an acute attack of dipsomania.

From a careful study of the sanitary and psychological conditions which surround us, there will be found many special exciting and predisposing causes which can be removed, that are almost unknown to-day. The mortality from inebriety exceeds all other maladies which affect the race, and when we shall study it as a physical disease and understand the causes, its prevention and cure, will mark a new era in the civilization of the world. The question, What can we do with the inebriates? can and will be practically answered in the future, by these methods which I have merely outlined.

The frontier lines of this subject have been hardly crossed by scientific investigation. Standing on the borders we can discern faint outlines of hills and valleys, and vast stretches of unexplored lands full of mystery that will be found under the domain of law, rich in physiological fact and principle. A knowledge of this unexplored land will vanish the fog and traditional superstition which hangs over it and all the conflict of opinion and theory will be solved, and inebriety will be known and studied as a physical disease, both preventable and curable to a large degree; some of the facts which I have made prominent in this paper may be stated thus:

1. Inebriety is a physical disease with a distinct origin, development and progress. Its symptomology is continuous and can be traced from stage to stage.

2. In the causation the desire for alcohol is both a symptom and a disease. Different effects come from different alcohols, and different degrees of functional and organic perversions complicate and enter into the causa-



tion. Inebriates are divided into classes which require special methods and means of treatment.

3. When inebriety is studied as a special disease in hospitals for this purpose, its curability will be found equal to any other disease, and the answer to the question, What can be done for the inebriate? will be understood and practically carried out.

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## Art. IV.—The Stretching of Large Nerves in *Tabes Dorsalis*.\*

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*By DR. A. ERLÉNMEYER, of Bendorf.*

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Translated by DR. OTTO A. WALL, St. Louis,

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**K**ARL LANGENBUCH, of Berlin, was the first, who, in September, 1879, performed the operation of nerve stretching in a case of *tabes dorsalis*. He was followed by Prof. Esmarch, of Kiel, with a second case. I here-with add the third case, which, however, differs essentially from the first two in regard to the indications for the operation, and, therefore, in this sense, may be considered as a first case.

The two above-mentioned authors had recourse to nerve-stretching in *tabes dorsalis*, only for that reason which, until now, has been alone indicative for this operation, namely: for the purpose of removing pains which are limited to the region supplied by one distinct nerve, and which will not yield to any other remedy.

In both cases there were the well-known darting pains which are peculiar to, and pathognomonic of, *tabes dorsalis*. *Langenbuch* says:† “The pains tortured the

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\*From *Centralblatt fuer Nervenheilkunde*.

†Berl. Klin. Woch., 1879, 48.

patient exceedingly in spite of all applied sedatives, and when the pain just seemed to rage in the left ischiadic nerve, I proposed the stretching of this nerve."

From this, unfortunately, very short communication\* which *Esmarch* made in the first meeting (April 8, 1880) of the Seventh Congress of Surgeons in Berlin, during a discussion of nerve stretching in the present case, it appears that the pains were most severe in the fore-arm (the diagnosis of *tabes dorsalis* had been made by *Prof. Quinke*).

*Langenbuch* stretched the main trunks of the ischiadic and crural nerves; *Esmarch*, the nerves in the axilla. Both operations were followed by marked success, as both patients were delivered from their pains after the nerve stretching. *Langenbuch* records "*complete disappearance of the pains in the region of the stretched nerves*" immediately after the operation. *Esmarch* observed the exceedingly noteworthy fact that the pains disappeared, not only in the region of the stretched nerves of the arm, but also in the region of the unstretched nerves of the leg.

Besides these expected and fully realized results of removal of pain by the operation of nerve stretching, there occurred in both cases another effect, which had been foreseen by no one, and which might seem destined to throw light upon a hitherto unsuspected feature in the pathology of *tabes dorsalis*. *In both cases, after the operation, there disappeared not only the pains, but also the previously existing ataxia*. *Langenbuch* says: "As the patient made his first efforts to walk he remarked that he now knew again what he had under his feet. These efforts to walk were feeble at first, but improved and now the unexpected fact became apparent that the ataxic symptoms had also completely disappeared. After the patient had recovered a moderate ability to walk he left the hospital on account of family affairs. Soon after, I heard that he had sought and obtained admittance in another hospital. I visited him there, and found him walking about without support, and free from all ataxia

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\*Deutsch. Med. Wochenschr., 1880, 19, etc.

and disturbances of sensibility in the leg. He complained only of weakness and pains in the arms."

*Esmarch* states: "The result was excellent, for the pain in the legs and the ataxia both have disappeared."

The only difference in the two cases is, that in *Langenbuch's* patient the success in regard to the pains was limited to the region of the stretched nerve.

The questions in regard to the pathology of tabes dorsalis, which, after these remarkable facts, force themselves upon us are the following:

1. In the two above-mentioned cases, was the process of disease, which produced the aggregation of symptoms constituting tabes, really localized in the posterior columns of the spinal cord, to which situation it is generally referred by the opinions prevailing at present?

2. If this localization is admitted, had the process already advanced to complete degeneration; or,

3. Were there here only the introductory stages of a chronic inflammatory process, which, however, according to general pathological analogy, must be considered as reparable anomalies of nutrition of the nerve elements?

4. Finally, I ask whether there may not have been, in both cases, a process of disease of a peripheral nature, which produced those symptoms corresponding to a degeneration of the posterior columns of the spinal cord?

These extraordinarily important points can only be conclusively decided by a microscopic examination, the result of which, it is to be hoped, *Prof. Westphal*, who has—as I know from personal information—the spinal cord of the now deceased patient of *Langenbuch*, will soon publish.

As far as we can draw conclusions in regard to the stage of the disease from the clinical history which *Langenbuch* gives of his case, it seems to me that we are forced to assume that this was not a recent case, notwithstanding the author says, that the patient fell sick "*a few months ago* with the symptoms of tabes."

The complete aggregation of symptoms of tabes was fully developed, and just this circumstance seems to me to contradict the supposition that we had to deal with an incipient tabes dorsalis, for we are accustomed, clinically, to suppose the latter to exist, when individual symptoms, of which we know they will occur later in the course of the disease, do not yet exist, and others are only indistinctly developed. In *Langenbuch's* case this is different. There were the sudden (lightning-like) pains in all four extremities. *Romberg's* symptom could be demonstrated, *patellar tendon-reflex* was wanting. He adds, furthermore, that ataxia was "fully developed," so "that the patient tossed the slippers from his feet."

Besides, ataxia is not a symptom of the earlier stages of tabes, to which fact I have on former occasions repeatedly called attention, and when it is developed to the extent here related, we may generally conclude that the process is in an advanced stage. The typical decrease of sensibility also was developed to a considerable extent and displayed a completeness which does not occur in the beginning of the disease; the patient did not notice that he tossed the slippers from his feet in consequence of his ataxia, "and could not distinguish whether he had anything under the soles of his feet, or what." Further, there is mentioned a "myosis of advanced grade," probably that symptom which is designated, according to Erb, as spinal myosis, or myosis with reflex *rigidity of the pupils*.\* According to my own observation this symptom can be observed only in the more advanced stages of tabes, and I have therefore in my former treatise on the initial symptoms of tabes intentionally omitted to make mention of this phenomenon. I have no cause to depart from this view, as I have until now seen no case of recent tabes with myosis and reflex rigidity of the pupils, and just for this reason I would not like to consider *Langenbuch's* case as one in the incipient stage.

\*Erb saw this symptom in half of 71 cases (52, p. c.); among these, one case each of 1½ and 1 year, 8 and 6 months (Facultats-programm. Leipzig, 1880, and Centralblatt fuer Nervenheilkunde.)

If then the clinical symptomatology forces us to consider the case as one of an advanced stage, therefore, to assume that the chronic inflammatory process had already resulted in degeneration, then the therapeutic effect which was produced almost in a moment by a peripheral interference, must certainly produce astonishment; or there is no other alternative than the affirmative answer to my last question; or, in other words, the supposition that there exists an extra-medullary, consequently a peripheral process of disease, producing the same symptoms which we, heretofore, have been accustomed only to see produced by the degeneration of the *lateral columns* (Seiten-straenge) of the spinal cord, and in fact, a process that is capable of being comparatively easily influenced in a favorable manner. What of pathological-anatomical knowledge is at our disposal, for the eventual support of this supposition, is restricted to the following: We know that in all advanced cases, without exception, the posterior roots appear atrophied, presenting, in fact, a degenerative atrophy of the fibres, with hypertrophy of the connective tissue, while in the earlier stages of the disease they have often been found in a normal condition. This degeneration of the roots in older cases, however, in no instance progresses to the sensitive nerves—never beyond the spinal ganglia. The peripheral nerves, also, are mostly intact; only in one of *Friedreich's* cases there was found increase of the connective tissue and wasting of the fibres in the ischiadic nerve. Whether, and in what manner, such conditions may be brought into causative relation with the facts that now interest us, must be left to the investigations of thorough study. At all events, histological changes can scarcely be supposed in the cases under consideration.

Another question which suggests itself, may also be formulated in words: Whether only those two symptoms of disease which were removed by peripheral treatment, the nerve-stretching, namely, the pain and ataxia, depend on a peripheral affection; whether we are, therefore, jus-

tified in supposing a state of increased excitability of the nerve conditioning both these symptoms, and whether our knowledge of ataxia can in any manner be promoted thereby.

Whatsoever may be the anatomical decision, it is certain that we have before us a most remarkable and important fact. If there should be found degeneration of the posterior columns—then arises the task of demonstrating the track upon which, and the method by which, such a peripheral interference is capable of producing results of a kind which we can then scarcely conceive without the supposition of definite histological changes.

If the posterior columns are found intact then we are forced to seek the clinical differential symptoms between a *tabes* really depending upon degeneration of the posterior columns and a *tabetiform* group of symptoms, which in the light of the above cases, must be considered as extramedullary. At any rate, the therapeutics of *tabes dorsalis* are enriched in a manner far exceeding even the most sanguine hopes based upon an antisyphilitic treatment; *aye, it might even be possible, if such successes are repeated in an analogous manner, to influence favorably certain brain diseases by peripheral stretching of the cranial nerves.*

But, however this may be, it seems to be worth while to make further experiments in the indicated direction, and to gather empiric material, before the explanation is placed off-hand upon the favorite pack-mule of the vasomotor nerves. That the operation must be carried out strictly according to Lister, is self-evident.

Acting upon these considerations, I have performed the operation of nerve-stretching, in fact, a stretching of the ischiadic nerves of both sides in the *incisura ischiadica*, in an old case of *tabes dorsalis*. The patient, whose history I herewith add, had long ago passed the stage of the sudden pains, and only very seldom, especially in damp weather and during low barometric pressure, felt slight reminders of the former pains—(toben).

He had long ago arrived at the so-called paralytic stage of tabes; could neither walk nor stand, had paralysis of the bladder, and all other symptoms of the fully-developed disease. With the sole object of removing the ataxia, and possibly to restore to him the power of walking or at least of standing, I proposed to him this operation.

In this regard, my case differed essentially from those of Langenbuch and Esmarch, as I have already pointed out at the beginning of this article. They operated for the purpose of removing pain. Accidentally, it happened that the ataxia disappeared with the pains.

This accidental result I utilized, and advanced it as the *sole* indication for an operation.

[*To be Continued.*]

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## Art. V.—Melancholia.\*

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By IRA RUSSELL, M.D., Wichendon, Mass.

A PERSON unfamiliar with the peculiarities of insanity, on entering one of our large insane hospitals, will, at first, be impressed by the great variety of symptoms and characteristics manifested by the inmates. But, upon a careful examination, he will find that they can be arranged and classified into a few distinct groups; the restless, excited, talkative sufferer, from acute mania; the general paralytic, with his exalted ideas of untold wealth and power; the melancholic, stolid and indifferent, with suffering and gloom pictured on his countenance and expressed by every action, and the demented, oblivious to everything around him. These different mental and physical manifestations, which at first seemed a hetero-

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\*Read before the New England Psychological Society, Dec. 14, 1880, by Ira Russell, M.D., Wichendon, Mass., Member of the Association of Superintendents of American Insane Asylums, of the New England Psychological Society, Massachusetts Medico-Legal Society, etc., etc.

genous aggregate, can be reduced to a few well-defined and distinct groups, not but that there are cases which seem to shade into each other, making it difficult to determine whether a patient should be classified with mania or melancholia, or another with melancholia or dementia. In fact there is a border-land where sanity and insanity shade into each other, and many persons pass their whole life very near that line, as shown by eccentricities in regard to business, morals and religion, with sudden and unlooked for changes in character and disposition. As Dryden says:

"Great wit to madness is allied."

Twenty-five or thirty years ago, little or nothing was taught in our medical schools respecting psychological medicine. It is not so now; the importance of a knowledge of mental diseases to the general practitioner is beginning to be recognized, and our medical colleges are beginning to give instruction in this department of medicine.

My topic is "Melancholia," one of the most common and curable forms of insanity. The term *melancholia* is derived from two Greek words: "*μῆλας*" and "*χολή*," meaning black bile. The invasion of this form of insanity is variously characterized, sometimes sudden, as when produced by grief or some unexpected reverse of fortune; but usually it is slow. The subject of it, gradually and almost imperceptibly loses his relish for existence, takes less interest in his business and his family, is abstracted in thought, peevish and fretful in disposition, and more easily irritated than usual; seeks solitude, and, in the words of Dryden:

"He makes his heart a prey to black despair,  
He eats not, drinks not, sleeps not, has no care  
Of anything but thought; or if he talks,  
'Tis of himself."

At first he may be moody, silent and taciturn, but he soon begins to talk about himself; he has done some great wrong for which he is to be punished, etc. An



eminent business man, of this State, once told me that he had misappropriated funds entrusted to his care, and he was to be hanged for it. He said another man had committed the same crime and been imprisoned; but *he* knowing better, must be hanged, as that was the only punishment adequate to his offence. An investigation of this man's affairs showed everything to be all right.

The fear of poverty is very often manifest, especially in those who have an abundance. Such persons will refuse food. I have a lady under my care, seventy-five years old, who would not eat were it not for dread of the stomach pump. Her excuse is, that she cannot compensate me for the food, and that it "distresses her stomach." For several years previous to coming under my care she had been on a very restricted diet, as she claimed that everything she ate hurt her. When she came to me she was reduced to a mere skeleton, and was on the point of starvation. I put her on a generous diet and she very soon began to gain physically and in strength. Nothing that she has eaten has disagreed with her, but her melancholy has become chronic, and if left to herself she would soon die of starvation. On a great many subjects she talks rationally and even seems to know that her notions about poverty are delusions.

It is often very difficult to determine whether a person is suffering from melancholia or "pure cussedness." The willfulness, irritable temper, like- and dislikes, the hatred of certain persons without any assignable cause, or the assignment of causes that have no reality, are apt to be attributed by friends to anything but the true cause. Such persons will be treated for liver complaint, dyspepsia and other difficulties, but without benefit.

You question a melancholic closely and get him to disclose his true feelings, and he will tell you that there is a cloud hanging over him, he can see no sunshine. His friends seem to have forsaken him, and instead of seeming near him are far away in the distance, and constantly receding from him. The previously indulgent

parent abuses his children; the loving wife distrusts her husband and takes the lives of her children to save them from some fancied evil.

Bucknill and Tuke say that

"No mental disease stamps itself upon the physiognomy and demeanor of the patient more decidedly than melancholia. The sad and anxious eye, the drooping brow, the painful mouth, the attenuated and careworn features, the muddy complexion and harsh skin, the inertia of body, the stooping, crouching position and the slow and heavy movements, speak of distressing oppression of the faculties and intense wretchedness."

While the common maniac is perfectly satisfied with himself, and thinks everybody else crazy, the melancholic's thoughts are turned inward upon himself; he is full of regrets and self-blame for something done or left undone in the past and full of apprehension that future evils will overtake him.

When the religious element is involved, the patient becomes the victim of the most gloomy fancies, and the conscience becomes so morbidly acute, that:—

"Night riding incubi  
Troubling the fantasy,  
All dire illusions  
Causing confusions;  
Figments heretical.  
Scruples fantastical.  
Doubts diabolical"—

Are incessantly presented to the mind, and life is rendered intolerable by perpetual misgivings as to the propriety of the most trifling circumstances.

A patient of mine lost a daughter by consumption; she was the only child of his first wife, who died when this child was quite young. He had married again and had other children. After the death of this daughter the thought occurred to him that he *might* have thought, that, inasmuch as she had consumption and could not possibly get well, he would be better off when she was gone, as it would tend to harmonize the family. He was not sure that he ever had such a thought, but if he ever *did* entertain such a thought, it was a horrible sin and God would inflict a terrible punishment upon him for it.

The misery and unhappiness that this one thought caused him is indescribable. He was a very intelligent gentleman, and when his mind was diverted from this one subject, his conversation and ideas were rational and intelligent. So old a writer as Plutarch has given a graphic description of the religious melancholic:

"To such a man every little evil is magnified by the searing spectres of his anxiety; he looks upon himself as a man whom the gods hate and pursue with their anger. A far worse lot is before him, he dare not employ any means of averting or remedying the evil, lest he be found fighting against the gods. The physician, the consoling friends are all driven away. 'Leave me!' says the wretched man, 'me the accursed, the hated of the gods, to suffer my punishment.'"

I might quote much more from old writers, but the above is enough to show that melancholia is no new disease.

At the present day the religious melancholic is very apt to imagine that he has committed the unpardonable sin. Such a one once consulted a distinguished clergyman, and he very frankly told her that he was not the proper person to consult, but that she should seek the advice of some good physician.

Indecision is a very common symptom in melancholia; it may be slight in trifling matters, or it may characterize every action. I once had a patient, a graduate of Harvard College, a fine scholar and cultivated gentleman. He would be all day in writing one line; he could not make up his mind what words to use. I went to his room one morning and found him in undress. I asked why he was in that condition, and he said there were two shirts on the bed and he could not make up his mind which to take.

The delusions of melancholia are frequently single—the mind fastens upon one thing—it may be rational upon all other subjects. It may be conscious of the delusion and may even make efforts to conceal it and try to overcome it, but it is all in vain.

One of the most distressing cases of melancholia that has come under my observation was that of a young

physician, in whom the disease took the form of syphilophobia. He belonged to one of the most distinguished New England families. He had a home and foreign education, was refined and polished in manners, well-versed in the literature of his profession, and very conscientious in the discharge of every duty. He located in a large city, and soon obtained a large practice. From over-work and anxiety he became depressed, slept badly, and his appetite failed. He soon imagined he had contracted syphilis, protesting all the while that he had been strictly moral, upright and honest in all his conduct. He was constantly watching for syphilitic symptoms, and whenever he found any abrasion or pimple upon his person, he was sure it was syphilitic. He would go to the mirror a hundred times a day to examine his face for syphilitic eruptions. He was constantly pulling his beard and hair to see if he had not got syphilitic alopecia. He would talk with any one that would listen to him about his syphilis for hours; would weep and cry and lament his deplorable condition, in fact, his agony was indescribable. "Nobody," he would say, "could understand his situation." No one would believe him when he asserted that he had been upright and honest. He became suicidal, and made several attempts to take his life. By my advice, he went to New York and consulted one of the most distinguished syphilographers, Dr. F. N. Otis, who found no signs of syphilis—but it made no difference with his belief or mental sufferings. He made several visits to New York, and consulted other physicians with like results, and, finally, committed suicide with a pistol shot while in the water-closet of a railroad car on his return from a visit to New York, where he had gone to consult several experts, all of whom pronounced him free from the disease. Notwithstanding he seemed pleased with the opinions given, and expressed a determination to give up the delusion; he, in a very artful manner, purchased a revolver with the results above stated. During all this time (after purchasing his revolver) he was more cheerful and self-possessed

than he had been for months. Bumstead has expressed the opinion that syphiliphobia is in no way due to syphilis, as it is much more frequently found among those who do not have the disease.

Nearly all melancholics have a suicidal tendency ; Virgil, in describing what Æneas, in "Avernus," saw, says :

Proxima deinde tenent moesti loca, qui sibi letum  
Insontes pepereve manu, lucemque perosi  
Projecere animas. Quam vellent aethere in alto  
Nunc et pauperiem et duros perferre labores !  
Fas obstat, tristisque palus inamabilis unda  
Alligat, et novies Styx interfusa coercet.

Which Governor Long translates thus :

Next the abode of melancholy souls  
That guiltless else, sought death by their own hands,  
And lay down life because life burdened them.  
Glad were they now if but in upper air,  
Rough toil or want they bore, but fate forbids.  
The grim flood pens them with its gloomy wave,  
Nine times the engulphing Styx around them coils.

No melaneholic can be trusted, however mild the symptoms.

The number of suicides in this State, during the last ten years, has averaged 122 per year. Last year the medical examiner reported the same number, giving the method adopted to "shuffle off this mortal coil," in eighty (80) cases; viz :

By Hanging	-	-	-	-	23
Drowning	-	-	-	-	16
Pistol Shots	-	-	-	-	17
Cut Throats	-	-	-	-	10
Leaping from Heights	-	-	-	-	2
Strangulation	-	-	-	-	1
Unknown	-	-	-	-	1

BY POISONS.

Paris Green	-	-	-	-	5
Corosive Sublimate	-	-	-	-	1
Chloral	-	-	-	-	1

Morphine	-	-	-	-	1
Laudanum	-	-	-	-	1
Cantharides	-	-	-	-	1

The causes were not generally given, but, by letters of inquiry and other means, I have learned that considerably more than half were due to melancholy, many of whom had been suffering from it for many months, and no pains had been taken to put them in places of safety. A case reported by Dr. Abbott illustrates this carelessness of friends:

A. B., aged 70, a farmer in comfortable circumstances. His daughter, with whom he lived at his own house, was confined. On the sixth day of her confinement, her father stole up to her room with a hatchet and aimed a blow at her head with the intention of killing her; he did not succeed, but inflicted a slight wound.

He said it was his intention first to kill his daughter and then himself. On the following day he was found hanging in the barn, dead. The family being at church, leaving him without any restraint, as if nothing had happened.

The general practitioner, when called to visit one of these cases, will, very likely, be told by the friends that the patient is bilious, that he has the blues, does not sleep well, and worries about nothing. They will be careful not to disclose his delusions, his jealousies, his hatred of those he formerly esteemed and loved, his unprovoked outbursts of passion, his fear of poverty—when he has an abundance—and other delusions of a dangerous character; he showing, perhaps, at the time, a disposition to act upon them, to the great danger of himself and others. They conceal these things for fear of the fancied disgrace publicity would bring upon their family. The result is that, upon some fine morning or calm evening, a family is thrown into the deepest distress, and a whole community shocked by a case of cut throat, drowning, pistol shot, poisoning or strangulation. Then the physician will be blamed because he had not discovered that his patient was insane.

This tendency of melancholics to commit suicide, renders it absolutely necessary that they should be carefully watched. Hence, the importance of sending them

early to some insane hospital or place where they can be under the constant care of those who fully understand the nature of the disease. Here allow me to remark that the hue and cry against insane asylums is nothing but a morbid sentimentalism. Where there is one unnecessarily confined, there are scores who ought to be thus cared for, who are at large.

The pathology of melancholia is obscure. The late lamented Dr. Tyler, when called in consultation, used to say to my melancholic patients, that they had a lump in their brains. I know not what his views were in regard to the localization of function as taught by Heitzig and Ferrier, but some of our ablest alienists, and notably among them Hughlings Jackson and Crichton Browne have adopted their views as a whole or in part. I quote from Ferrier:

"The organic sensations and their cerebral centers, probably the occipital lobes, would thus seem to be the foundation or universal background of the pleasurable or painful emotions in general."

Morbid states of the viscera and of the cerebral centers are incompatible with pleasurable emotions of any kind. As healthy states of the viscera produce pleasurable feelings, and morbid states of the viscera produce depressing or painful feelings, so, conversely, on the principle that the revived feeling occupies the same parts as the original, pleasurable emotions exalt the vital functions, and painful emotions depress the vital functions and produce organic visceral derangements. Whether the various viscera are represented individually in the cerebral hemispheres, has not been experimentally ascertained; it is, however, not improbable, and the ancient localizations of certain emotions in certain viscera, though crude, is not without some foundation in positive physio-psychological fact.

Morbid states of the viscera or of the centers of organic sensations in reciprocal action and reaction may give rise to hypochondriasis or melancholia; and just as visceral derangements frequently express themselves in

localizable sympathetic neuroses, so the melancholic individual projects the obscure feelings in some definite objective form as the cause of his sufferings. He imagines his vitals are being gnawed by some hideous animal or that his body is the scene of demoniacal revels. The special form of the hallucination will vary with the individual and his education; but it always takes some dread or malignant shape.

J. Crichton Browne, in the October number of *Brain*, in an article entitled a "Plea for the Minute Study of Mania," referring to the localization of function, says:

"I take it as an established fact that there is localization of function in the brain \* \* \* \* \*

This hypothesis is necessary to the explanation of the innumerable varieties of insanity. It seems certain that there are system diseases and local diseases, neural and adneuronal changes in the brain, just as there are in the spinal cord, and that these are severally signalized in the brain as in the cord by distinct sets of symptoms.

The existence of motor and sensory symptoms in mania is obvious enough. Restlessness is almost indispensable to our idea of it, and every description of it that exists abounds with reference to great muscular activity, contortions, gesticulations, violence and wild cries.

But these disorders of movement in mania have not been subjected to minute analysis. They have been regarded only as expressions of psychical exaltations, and as such have not been thought worthy of detailed examination. And no doubt many of the movements of maniacs are but unrestrained manifestations of ideal and emotional states, or reflexes of inordinate strength. But besides these movements there are others, which, by their peculiarity and purposeless persistency, are marked out as being of a different character. And these it is which will probably, I think, be shown to depend upon excitation of the motor centers of the brain by a morbid process, and which will thus sometimes supply indications as to the parts of the brain involved in that process, and as to its lines of propagation and retrocession. Even at the very height of acute mania, when the symptoms are infinitely complex and varied, certain markedly predominant movements may frequently be seen, which it is impossible to connect with any feeling or intention. Thus some maniacs will run about uninterruptedly night and day in a purposeless manner, and if held down in bed, will continue to move their feet and legs as if still engaged in running. Others again will remain in bed and will rarely move their lower limbs, but will toss their arms about incessantly or busy their hands unceasingly in smoothing or fraying the bed-clothes. May we not suppose that in the former class of cases there is irritation of the postero-parietal lobe of the brain, in which Ferrier has localized the crural movements, and that in the latter class



the irritation is concentrated in the ascending frontal and parietal gyri, in which the brachial and manual movements are localized?

Some maniacs talk vociferously and jargonize; may we not infer that in them is an irritative lesion of the oro-lingual region, in the third frontal convolution? Others are resolutely silent, but shake their heads from side to side without intermission.

May we not suppose that in them the cortex of the superior temporo-sphenoidal gyrus is hyperæmic or inflamed?"

As I have already shown, nearly all melancholics have the suicidal tendency, and it becomes an interesting question, upon what does that propensity depend? Maudsley says it is due to the loss of the love of life. The love of life is a universal instinct. No animal ever commits suicide. Now, on the theory of the localization of function, may there not be a cerebral center that presides over the instinctive love of life, and in the melancholic suicide, may not that center be either organically or functionally diseased?

A harsh skin, coated tongue, foul breath, insomnia and constipated bowels are common in the great majority of these cases. While there may be no organic disease of the brain, there is mal-nutrition and frequently anæmia.

TREATMENT.—The first great object is to restore the defect of the brain by means of food and sleep. To produce sleep, chloral is useful in the excited forms; in sub-acute and less excited forms, opium can be used, usually with great benefit. The best preparation of opium is meconiate of morphia, as it does not constipate the bowels. Belladonna, conium and hyoscyamus are useful. It is often well to combine chloral, hyoscyamus and meconiate of morphia. In short, by various combinations of sleep-producing medicines, we get better results than by any one given alone.

Next to procuring sleep is the question of nourishment. Some patients will refuse food altogether, and we have to resort to artificial means of feeding.

The late Dr. Tyler told me that he fed a distinguished merchant of New York every day for thirteen months with a stomach pump, and that he recovered; and, at the time

the Doctor spoke to me, was well and actively engaged in business.

Melancholics, before coming under proper treatment, have usually been on a very restricted diet, complaining that everything they eat hurts them. When put upon a full and nourishing diet, they invariably improve, and, in a short time, the coated tongue and foul breath disappear. Stimulants, such as wine, ale, and sometimes stronger stimulants, are useful.

I have no doubt that many melancholics die from starvation, who are not reported as suicides. They are kept at home, they are not troublesome, or, at any rate, not dangerous, and so are not sent to asylums. Their whims are indulged, and they are allowed to restrict themselves to a cracker a day, perhaps. I once knew a clergyman, in my own neighborhood, in a physician's family, who died from starvation.

In addition to food and hypnotics, tonics, such as Esquirol's Red Mixture, iron, conium and strychnine, phosphorus and quinine are usually demanded.

Very often one of the first things recommended by friends and sanctioned by the physician is travel, with the expectation of diverting the patient's morbid thoughts from himself, but all such devices are without avail, and often worse than useless; the patient is sure to take his disease along with him. If he travels by rail, there is great danger that he will leave the train while in rapid motion, or throw himself in front of the engine; or, if he travels by steamboat, the temptation for taking a water-bath is irresistible.

Melancholia, like every other disease in its early stage, requires rest, care and treatment, and wherever these can be best secured is the place for the patient. A trip to the hospital, or to some place away from home and the exciting causes and surroundings that have produced the attack is all the traveling admissible.

Many melancholics have periods of exaltation and depression, and these periods must be met by appropriate

treatment. If the patient's means will allow, the more home-like and quiet the place for treatment, the sooner may one expect a recovery. As a general rule, removal from home is indispensable.

PROGNOSIS.—This form of insanity is the most curable, and, if taken in its early stages, almost invariably yields to treatment. When neglected, and it becomes chronic, it is apt to become permanent. Here the question may arise: "When a case of melancholia is cured, may we expect it to be permanent, or are we to look for a recurrence?"

The subject of the permanency of the cures of insanity is exciting a good deal of attention, and a spirited discussion is now going on between Drs. Earle, of Northampton, and Ray, of Philadelphia, upon that question. Dr. Earle taking the ground that the curability of insanity has been very much over-estimated, as the number of cases cured very much exceed the number of persons—the same persons being reported cured many times. Now, what are we to expect in regard to cases of melancholia? Are we not to expect a recurrence of the disease? Frequently there will be a recurrence of the disease. A person goes to a malarious district and contracts fever and ague—he recovers—he subjects himself to the same influences again and has another attack. So it is with melancholia; a person was engaged in some harrassing business, he returns to it; he had lost property, it occurs again; he had domestic troubles, he is subjected to the same again, and a recurrence is the result. While, if he had not been subjected to the same or similar causes that produced the first attack, there would have been no return of the disease.

## Art. VI.—On the Propositions of the Association on the Organization of Hospitals for the Insane.

### *SUBORDINATE OFFICERS AND ATTENDANTS.*

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By JOHN CURWEN, M. D., Harrisburg, Pennsylvania.

AS it is impossible for the superintending physician to attend to all the varied details required of him, and at the same time, give constant attention to all the minor medical duties, it has been arranged in all properly regulated institutions to have one or more assistant physicians, according to the number of patients in the hospital.

"5. The assistant physician, or assistant physicians, where more than one are required, should be graduates of medicine, of such character and qualifications as to be able to represent and perform the ordinary duties of the physician during his absence."

"8. In institutions containing more than two hundred patients a second assistant physician and apothecary should be employed; to the latter of whom other duties in the male wards may be conveniently assigned."

The duties assigned to these assistant physicians will consist in visiting the inmates with the superintending physician when he makes his daily morning visit; in attending, carefully, to the preparation of such medicine as may then be prescribed, and to their administration in special cases; in visiting all who need special medical attention as often as may be needed; and then, in the latter part of the day, in making a careful and attentive examination of all the patients in the wards; in noting any peculiarities which may have occurred during the day, and in reporting them fully to the physician. On them, also, will devolve the registration of each case, and the course of treatment, with all the minor matters which have a bearing on the case.

They should also be prepared to attend to any other duties, which may be considered needful for the welfare of the patients; should assist to the fullest extent in all matters which pertain to the hygienic and moral treatment, and so thoroughly identify themselves with the interests of the institution and the welfare of the patients, that they would be willing to give their time and thoughts wholly to their care. A thoroughly conscientious assistant physician will always find ample employment for all his time in assisting in the execution of those duties which have special reference to the welfare and restoration of the patients, and his qualification for the position will be tested and decided by the thorough and hearty manner in which he enters into all the plans which may be devised for their interest, instruction and amusement.

In institutions with a moderate number of patients, the preparation of the medicines can readily be attended to by the assistant physician; but where a large number fill the wards, an apothecary will be found useful to give the assistant physicians more time to write up the cases and prepare for the various matters which may be required for the instruction and entertainment of the patients. An apothecary can also perform certain clerical duties, or duties of a defined character in the wards under the immediate direction of the superintendent.

"6. The steward, under the direction of the superintending physician, and by his order, should make all purchases for the institution, keep the accounts, make engagements with and pay and discharge those employed about the establishment; have a supervision of the farm, garden and grounds and perform such other duties as may be assigned him."

The manner in which the duties of the steward are defined in this proposition and in the By-Laws of the different hospitals for the insane would seem to place the whole subject in the clearest light, but it has been the unfortunate experience of the great majority of institutions in this country that stewards have too frequently considered themselves a law unto themselves, and have attempted to assume and exercise powers as if they were entirely independent of the superintendent, and too often

they have been encouraged and sustained in this by those whose duty it was to check any such assumption of authority and relegate him to his proper sphere.

Certain individuals, whose zeal in digging out theories which have passed into the limbo of exploded and unsuccessful experiments has exceeded their discretion and sound judgment, have urged that the whole management of the institution, outside of the medical duties, should be committed to the steward. Such a course only tends to produce discord and trouble, and, as all experience in the past has proved, has inured only to the injury and disadvantage of the institution. The reasons against such a procedure were given under the fourth proposition, and need not here be repeated further than to say that no such scheme has ever yet acted satisfactorily, and, human nature remaining as it now is, it is not probable that it ever will.

"7. The matron, under the direction of the superintendent, should have the general supervision of the domestic arrangements of the house, and, under the same direction, do what she can to promote the comfort and restoration of the patients."

The duties of the matron are confined, in most institutions, almost exclusively to the care and management of the domestic arrangements, and these are sufficient, if properly and thoroughly attended to, to occupy all her time and give her little opportunity of looking after what so many think she should do, the interests of the patients. The term "housekeeper" would be much more suitable to the position, as her duties confine her, principally, to the kitchen and the other domestic arrangements, including the laundry; and, in every large institution, the proper attention to the cooking and serving the food, and the proper watchfulness to be observed to prevent waste, and keep every one in the strict line of their duty, with the supervision of the bakery and the laundry department, require a large amount of time and thought. In no way can she better promote the comfort and welfare of the patients than by the careful and thorough cooking and serving of the food, and attention to a variety of matters

in her department which have a very direct and practical bearing on all that pertains to the health, comfort, cheerfulness and welfare of all in the hospital.

"9. If a chaplain is deemed desirable, as a permanent officer, he should be selected by the superintendent, and like all others, engaged in the care of the patients, should be entirely under his direction."

There is such a diversity of practice in different sections of the country in conducting the religious services, that it is difficult to lay down any plan which will meet all the requirements and reconcile all the differences.

In many institutions a regular chaplain performs all the duties on the sabbath, and visits, at the request of the superintendent, all those who may seek or need his special services during the week. In others, an arrangement is effected by which the clergymen in the neighborhood in rotation perform the services, and are considered chaplains and officers of the institution. In others again, the superintendent performs the duties and reads a sermon on each sabbath, and conducts all the exercises in the evenings during the week. It is always pleasant and agreeable to the majority of patients to be able to attend religious services, consisting of reading, singing and prayer, on every evening of the week, as a large number have been accustomed to such services in their own families, and feel a deprivation when they cannot enjoy them in the hospital. These services answer the double purpose of satisfying a felt want in many persons, and also of furnishing a degree of moral restraint by the attention required, and the decorum to be observed (and no more orderly and attention audience can be anywhere found), which is very beneficial to all who will attend them.

The necessity of the greatest prudence and caution in conversing with individuals whose minds are deranged, and more particularly when their views have taken a religious character, with a perversion of many of the plain truths of the Bible, renders it necessary that any one, who professes to converse with them, should be somewhat acquainted with the peculiarities of such disorders, and be able to state to them very clearly and distinctly

the exact truth, and be prepared also to meet the many arguments which may be urged in support of their peculiar views. Much harm may be done to a case of religious melancholy by failing to meet their statements in a kind and quiet tone, and to reason with them in such a gentle manner as to avoid giving offence by too strong an opposition, or not correctly understanding the position they may assume, or by showing impatience at the constant reiteration of the same point which has probably been frequently talked over before.

Too many fail to recognize the fact that the views held are, to the individual, at the time, just as vivid and distinct realities and verities as any which he may have held at any previous period, even though these views should be the reverse of his former beliefs, and too great caution cannot be observed in the manner of dealing with them; and harsh contradictions may only serve to fix in the mind indelibly what might be gradually removed by a kind, gentle and persuasive manner.

The following resolution, adopted in 1869, deserves a place here :

*“Resolved,* That this Association hereby expresses its earnest conviction that religious services of some kind in our institutions for the insane are generally highly salutary to their inmates, and should be regularly held; and that the Association hereby affirms the ninth proposition of the series adopted in relation to the organization and management of hospitals for the insane in 1856.”

“10. In every hospital for the insane there should be one supervisor for each sex, exercising a general oversight of all the attendants and patients, and forming a medium of communication between them and the officers.”

In every well-ordered organization there exists a regular gradation in the positions of those employed, so that the proper order may be preserved, and the communication may be established and maintained between the different parts so that each shall perform its allotted part in assisting to maintain that discipline which is necessary for the due and careful regulation of every part. Hence the necessity of a class to act as a medium of communication between the officers and attendants,



and also the patients who shall be fully instructed in what pertains to the proper treatment of the insane, and be able to give minute and often very needful instruction to the attendants in the discharge of their duties; and also counsel with them in such emergencies as may arise suddenly when an officer cannot be at hand, or as quickly summoned as the necessity may require. To such persons also the patients can resort at all times, and obtain what the attendants with minds pre-occupied with other cares and anxieties may not be able to give. These persons also give to the superintendent information of a character he cannot otherwise obtain in regard to the peculiarities of the patients and the conduct of the attendants, so that he is better able to direct what may be most essential in each case.

Such persons should be calm, self-possessed, of character and manner to win the confidence of those with whom they are most constantly brought in contact; clear headed to distinguish between what is real and what is only seeming, healthy and ready to give themselves earnestly to the work assigned them; with that tact and management which will enable them to meet emergencies which arise suddenly, and suggest the means needed to remedy them. They must also be discreet, prudent and cautious, careful in their conversation, and with such knowledge as will enable them to give advice clearly and distinctly, and of a kind and teachable disposition so that they will be able to gather and impart information of a character which may be useful and profitable to all with whom their duties may call them to associate.

"11. In no Institution should the number of persons in immediate attendance on the patients be in a lower ratio than one attendant for every ten patients; and a much larger proportion of attendants will commonly be desirable."

"13. The situation and circumstances of different institutions may require a considerable number of persons to be employed in various other positions, but in every hospital, at least all those that have been referred to, are deemed not only desirable but absolutely necessary to give all the advantages that may be hoped for from a liberal and enlightened treatment of the insane."

"14. All persons employed in the care of the insane should be active, vigilant, cheerful and in good health. They should be of a kind and benevolent disposition, be educated, and, in all respects, trustworthy; and their compensation should be sufficiently liberal to secure the services of individuals of this description."

The success in the treatment of the insane, as now carried out in every civilized country and by all who seek the restoration and welfare of the insane, demands the employment of a sufficient number of attendants properly to arrange all parts of that treatment in the most thorough and efficient manner. It is true many endeavor to manage with a smaller number, but that can only be done at a manifest disadvantage to the rightful claims of the insane.

An attendant is expected to spend his time almost continuously among those to whose charge he has been appointed, and the onerous character of this service will vary somewhat with the class of the insane. With those who are violent and excited it requires constant watchfulness to prevent injuries to the furniture or property of the institution, and difficulties with the other patients in the same ward; for unless the individual is very violent, demonstrative and quarrelsome, it will not be prudent or proper to confine him to his room longer than is absolutely necessary to allow a violent paroxysm of anger to pass off, and the individual to have regained a reasonable degree of calmness and composure. It will require constant and unceasing vigilance in the attendant to prevent these little strifes and difficulties very likely to arise among a number of men, restless, uneasy, not knowing what to do with themselves and constantly inclined to mischief, and from the peculiar character of their delusions or vagaries firmly persuaded that what they are intent on doing is for the special benefit of themselves or others, or to carry out some extravagant project they may at the time entertain. Many are very greatly disposed to destroy clothing, not only belonging to themselves but to others, and there seems to be in many a peculiar fascination in hearing the peculiar noise caused by the tearing of clothing or the breaking of glass or articles of furniture. It

needs all the patience of an attendant, and the exercise of that special faculty called tact, which can never be fully learned, but must be a natural gift to enable him properly to manage, so that the patients under his care may be prevented from doing what should not be done, and the proper way and time to interfere so as not to make confusion worse confounded, and to turn the thoughts of the patients into some other and better course. One man will quietly step in and by a few words prevent a quarrel or some other difficulty among the patients, while another seems utterly incapable of doing the right thing at the right time, and therein will be found the great difference between men, and the trouble is that some men never seem able to learn just how to act, and, therefore, while very good for certain other duties are clearly incompetent to the right exercise of the duties of an attendant on the insane.

But there is a large class of the insane who seem bent on doing everything in what appears to every one else the wrong way, and who are very irritable and fretful when any opposition is offered to their peculiar plans, and these require more than the usual amount of patience and forbearance to prevent an outbreak of violence, or some display of temper likely to give great trouble. Then again there is always a large class of melancholic patients, many of whom seem obstinately inclined to do the very thing they are constantly dreading, the idea of self-destruction is before their minds so steadily and persistently, that it requires the greatest degree of vigilance and caution to prevent the execution of their plans; and the degree of cunning exercised in the effort to carry out their plans is such, that very few attendants can be made to understand the necessity of the degree of watchfulness so constantly urged upon them.

All these patients require to be talked to and reasoned with from time to time, and what has been told them once may have to be repeated twenty or even a hundred times in the day to allay fears, or to inspire confidence,

disabuse the mind of some wrong impression caused by an unguarded word spoken by some one, or from a great variety of other causes which would not seem to a sound mind to be any cause for such fear or trouble.

All these things and a great many more of a similar character need to be carefully considered in estimating the duties of the attendant ; but then, at the same time, it must be remembered that the care of the ward, its cleanliness, the proper serving of the meals, the order of the rooms, the care of the clothing and the bathing, the exercise, the employment of the patients in some occupation or engaging them in some amusement to divert the mind or distract the attention from gloomy or unpleasant fancies, must all receive their proper share of attention, and none of them can be neglected or in any way slighted, if everything is to be done to the best advantage of the patient.

It is true the description looks more formidable than the reality, because so many of these things can be made to blend together in such a way as to lead to the accomplishment of the desired end, and the tact and skill of the attendant will be shown in the manner in which he is able to do these with the least strain to himself and the greatest advantage to the patients.

The enumeration above given will show that in order to the systematic and thorough performance of all these duties, such a number of attendants should be provided, that by mutual counsel and agreement they may carry forward all these matters in the most satisfactory manner, and give aid in all cases of contention or difficulty.

A kind, bright and genial disposition is a wonderful help in the performance of all these duties, and will carry many an attendant over troubles which others, differently constituted, will never be able to surmount.

The necessity of all the requirements of the propositions will readily be seen from this very partial exhibition of what will be expected to be performed by the attendant, and no statement in words will give a clear idea of the trials, perplexities and annoyances to which an attend-

ant is liable to be constantly exposed. To be a first-class attendant requires an imperturbable good nature, a ready tact to take advantage of everything which may occur, and turn it to the best use, and thus avoid a variety of troubles which would otherwise arise; mildness of manner but firmness of purpose and decision to adhere to the rules under any and all circumstances; cheerfulness and willingness to engage in everything which can be made available to the great object of the comfort and restoration of the patient.

It must at the same time be borne in mind that to enable the attendant to execute his duties to the satisfaction of all concerned, he must have extended to him that consideration which will make him feel that his efforts are properly appreciated, and he must receive the same character of treatment which he is expected to exhibit towards those under his charge.

The compensation should be so liberal, without being excessive, that the attendant may be free from the constant desire of change for higher wages, and the compensation should be graduated by length of service and fidelity to duty, and thus the temptation be removed of constantly looking out for some better employment and higher remuneration. While no amount of wages will make a good attendant, it is extremely desirable that those who have proven themselves good attendants should be encouraged to continue in the discharge of these duties. They should be allowed such relaxation from the exhausting duties constantly pressing on them as will serve to preserve their health and elasticity and buoyancy of spirits, and this relaxation should be at regular intervals, and for a definite period sufficiently long to enable them fully to recuperate, and relieve the mind from the strain under which it is constantly laboring. Much of the irritability of attendants, and the abuse of patients charged upon them, arises from the constant annoyances to which they are exposed in the regular discharge of their duties, and the want of that relaxation which can alone restore the

elasticity of spirit and cheerfulness of manner, which will enable them to go forward earnestly and vigorously in the right performance of all their duties.

They must be made to feel that their services are duly appreciated, and they should be encouraged in every way by kind words and cheerful advice in all cases of trouble or difficulty.

If the best results of treatment are to be obtained the best instruments must be employed, and those instruments must be kept in the very best order; and he who uses them makes it his study how he can best order all things in the institution to secure the devotion of the attendants to their duty from principles of duty, and make them feel at the same time, that they can go to him in all their trials and perplexities for advice and counsel, with the full assurance that they will receive that kind attention and delicate consideration of all their difficulties which will relieve their minds and enable them to discharge their part in a more hearty and cheerful manner. If "kind words are worth much and cost little," they should be as often spoken to the attendants as they are expected to speak them to the patients, and these kind words can be the means of relieving many troubles and giving heart and confidence to many attendants who are dragged down or irritated and perplexed by the continued annoyance to which they are exposed, from the perversity of those with whom they are constantly obliged to associate. The enforcement of a rule will be more cheerfully borne if it be done in a kind and conciliating manner, than when spoken in a harsh tone, and the effort of obedience will be more readily attempted under persuasion than under stern command, for there is "a great force hidden in a sweet command."

Men and women do not lose their individuality when they enter into service as attendants on the insane, nor do they become greater sinners by such an act because they may now and then give way to anger under provocation; and, consequently, they must be dealt with as

individuals and not as collective masses, and thus dealt with they can more readily be instructed in their duties and much more easily led along in that way which will best conduce to their own good conduct towards the patients and their greater cheerfulness in the discharge of the difficult and often very perplexing cares and labors; and at the same time be made to feel that they are receiving that consideration which will increase their self-respect and lead them to entertain brighter and healthier views of life and its duties, and their relation to all those with whom they are brought into hourly contact.

In addition to the attendants, it will be found of very great advantage to the patients to have a number of persons of each sex, more or less, according to the character and condition of the patients themselves, who have no special duties to perform in the care of the wards, but who, under the special direction of the superintending physician, shall give themselves entirely to the instruction, diversion and amusement of certain patients, so as to occupy their minds and divert their thoughts and lead them to engage in reading, light and pleasant work, or anything which may, at the time, seem most desirable.

A moment's reflection would convince any one that it would be greatly to the advantage of the patient, and for the comfort of those around him, to have some one take him under special charge, divert and interest him, and turn his thoughts into new and different channels, and give him such occupations as will relieve the restlessness and irritability under which he may labor, and which may often make him and those around him so uncomfortable.

Any one familiar with the care of the insane will readily call to mind many cases which have been benefited by such special care; and while the employment of such persons may add somewhat to the expense, no one, with the proper feeling and the special interest of the insane at heart, would, for one moment, feel that his duty was faithfully performed who would neglect any and every

provision of this or any other character which would have a bearing on the amelioration of the condition, or the prospect of restoration, of those committed to his charge.

"12. The fullest authority should be given to the superintendent to take every precaution that can guard against fire or accident within the institution, and, to secure this, a sufficient night-watch should always be provided."

The fearful and fatal results which have, in late years, so much alarmed and terrified the community, in the partial or total destruction by fire of several hospitals for the insane, and the lamentable loss of life in consequence of such fires, cannot too strongly impress upon all connected with hospitals for the insane, the absolute necessity of the greatest care and vigilance to guard against the occurrence of similar catastrophies. In buildings already constructed every appliance should be at hand which can assist in extinguishing fire, such as: an amply supply of water, at all times; arrangements for its distribution to every part of the building by pipe, and hose should also be provided to carry it to the remotest points within and around the institution. In buildings heated by steam—and all hospitals for the insane should be so heated—it is very easy to carry pipes from the boilers to the attics and such other parts of the hospital, so that they may at any time be flooded with steam, which, it is well known, is the most effectual extinguisher of fire.

In buildings to be erected no reasonable expense should be spared to render them as thoroughly fire-proof as possible, and while this will add somewhat to the original expense, it will give a sense of comfort and security which cannot be felt or secured in a building not so constructed.

The night-watch should be employed for the wards, and also for those parts of the building connected with the domestic operations of the institution, and they should be carefully instructed to use the utmost vigilance at all times against the occurrence of fire.

For the night-watch in the wards, in addition to a guard against fire, a variety of other duties will be assigned; to look specially to those who may be sick, or



those who are under active medical treatment for some disease; to the recently admitted cases, to observe any peculiar condition in them during the night; to the suicidal, to guard against any attempts which they may be inclined to make upon their own lives; to the feeble and demented, that they may have that special care they may require; to the epileptic, that they may not suffocate during their convulsions; to those inclined to be fretful and restless, to soothe and relieve them by many little acts of attention and kindness, and to extend to all that care which they will soon learn each may require, and which will tend so much to their comfort and to the quiet and comfort of all in the wards.

Special directions must be left to special cases; but the general direction can readily be followed that everything should be done even to the minutest detail which can give relief, comfort, assurance in doubts and fears and cheerfulness in distress and despondency.

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Art. VII.—The Invisibles and the Voices—  
A new method of viewing Psychical  
Hallucinations and Maniacal Inco-  
herence.\*

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BY DR. P. MAX SIMON,

Physician in charge of the Asylum at Bron.

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Translated by A. H. OHMANN-DUMESNIL, A. M., M. D.

AMONG the troubles found in insanity, there are certainly none so often presented to observation as hallucinations of the sense of hearing, and the singular persistence of this sensory phenomenon in certain delirious forms renders its study very easy, the hallucinated persons themselves, at least some of them, anticipating the observer. It must be understood that I am referring particularly to those alienated who are so often heard complaining of *voices* which abuse them, of *invisible* persons who pursue them.

From the observation of alienated persons affected with hallucinations of hearing, it is very evident that this hallucination is very variable, both in regard to the diseased sensation and in regard to its intensity.

The nature of the sensation felt, at one time, is that of simple noises; at another, that of voices more or less distinct, more or less numerous. At times these voices are strong, perfectly clear and seem to come from a near locality—generally the walls, ceilings, floors, fire-places, etc. At other times again the voices, enfeebled, appear to emanate from sites more distant, for example cellars of the building in which the patient finds himself. A patient at Bron hears his enemies speaking in the garrets, in the ceilings. A lunatic at Dijon continually complained of robbers whom she called by some name, I do not remember

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\*Lyon Medical, Nov. 28 and Dec. 5, 1880.

now, and who, concealed in the cellars of the chateaux, were incessantly abusing her. A lady, upon whom I waited for a long time, heard persons who notified her of the coming of railroad trains. The voices of these persons seemed to come from subterranean places in which she thought they moved about, preceding and watching the trains.

We would be liable to mistake the intensity of the sounds which the patient thinks he hears, if the facts were but superficially examined. Often patients tell us that persons are speaking to them, though living several kilometres distant from the place where the supposed speakers are buried, although they know and are certain of the distance that separates them. It might then be thought that these patients perceive a voice extremely enfeebled in proportion to the distance where their supposed interlocutors are placed; this happens at times, but it is not the most common, and if the hallucinated are carefully questioned, it is easily ascertained that the voice is ordinarily heard from the distance, which I noticed above; but here, as in many cases, the lunatic makes a false deduction which he often tries to support by more or less ingenious suppositions; hearing persons, to him known, speaking and who he knows are at considerable distance and beyond the ordinary reach of the voice, he does not hesitate to affirm that those persons employ magical means, that they have a speaking-trumpet which enables them to direct sounds to considerable distances. This is what attentive observation of alienated persons teaches us.

The words pronounced by the voices in hallucination are of a variable nature. For the persecuted, for instance, they are generally painful discourses; they hear that they will be cut, that they will be burnt, that they will be dissected, etc. Women are frequently pursued by obscene proposals, often by dishonorable propositions; often, again, the patients imagine that they have heard the complaints, the groans of persons dear to them, of a husband, of a wife, of a daughter. A lady attacked with the delirium of persecution was persuaded that her husband, long

since dead, was in the same asylum as herself; often she heard him; she also perceived very clearly the voices of her daughters, whom she imagined to be daily subjected to the most odious treatments.

The hallucinated, affected with mystic ideas, will hear the voices of angels, the Divine voice, etc.; the stupid lypemaniacs, plunged in stupor, hold themselves often immovable, refusing food to obey the voices which threaten them with a terrible punishment in case they should walk or eat. I will stop here; it can be easily seen, by what I have said, that the nature of the hallucination of hearing, as well as of sight, has but a small relation to the kind of delirium with which the hallucinated person is attacked.

I must notice the relation, which occurs often enough, of the auditory hallucination with the cause of the mental disease. I have seen several young men, whom the Prussian invasion made insane, whose auditory hallucinations consisted in gun-shots which they heard every instant; and M. Baillarger, in his remarkable memoir on hallucinations, has related the case of a woman, who, having become mentally deranged after seeing her husband struck by a musket ball in a riot, heard detonations of fire-arms, and the noise of glass broken by musket balls.

It is by no means rare to find cases in which in connection with hallucinations of hearing, hallucinations of vision are produced. The patient hears and sees everything at the same time, both senses join to deceive him. This, however, is less often the case than one would be tempted to believe. It is more common—especially in certain deliriums—that the auditory hallucination is isolated. The patient hears a voice; yet he sees nothing, at which he is astonished, frightened or irritated. It is often on account of this reason of isolated hallucination that the patient designates the beings to which he attributes the words, the abuse which he hears, under the name of *invisibles*. The alienated person has little doubt of the reality of the existence of the individuals whose voices he hears; but he imagines that in virtue of a power they

possess, they are invisible in order to torment him. It is, as a general thing, to some magical power that the hallucinated person attributes the possibility of his enemies to make themselves heard without being seen, and it is curious to note the expressions he uses to express his thought. He is heard to say that he is pursued by the method of the speaking-trumpet, of the ball, of the balance, of the cup, by magnetism, by electricity, etc. The enemies belong themselves, more frequently to societies which are invested by the patient, with an occult and almost unlimited influence; they are Jesuits, Freemasons; they belong to the police, to a gang, etc. I will add that it is particularly the chronic cases, with ideas of persecution and long since systematized, that use such expression.

But if the simultaneous existence of auditory and visual hallucinations is not very common, it is quite an ordinary thing to meet alienated persons, who, whilst hearing voices, at the same time experience hallucinations of general sensation. These patients complain at one and at the same time of threats and of abuses which their enemies make them hear, and of horrible sufferings which they inflict by cutting, by burning, by electrifying them, etc.

I have stated above that the voices heard are more or less numerous. At one time, the patients speak with a single voice, which answers him; there results a conversation on subjects in relation to the delirium of the patient. At another time, as is frequently observed in the maniacal state and in alcoholism, the voices are numerous and the language disconnected; it often consists of abuse heaped upon the patient by imaginary persons at whom the patient becomes irritated and rails with great vivacity. In regard to these multiple voices, Esquirol has related a very interesting fact and one which shows well the essentially personal nature, if I may be allowed that expression, of the phenomenon. The subject of the observation of the illustrious physician of Charenton was a prefect of a city in Germany, who became insane in 1812, in consequence of an insurrection which arose after the

departure of the French army. This patient, who knew several languages, heard voices addressing him in those different tongues; but that which adds interest to this observation and which shows that the hallucinatory phenomenon is the result of a sort of regress of images formerly acquired, is the fact that the voice which spoke in Russian expressed itself less clearly than the others, and it was Russian that the patient knew the most imperfectly of all the languages with which he was acquainted.

Do auditory hallucinations come on suddenly? This is what happens most ordinarily, but not always.

In the same manner as visual hallucination sometimes begins, as I have shown it in another place,<sup>1</sup> by elementary troubles false perception of colors, for example, just so it happens that certain patients, who, later on, will have much more complicated hallucinations of hearing, perceive simple sounds at first. For some time, it is the only sensory trouble which is met with. Then, voices are heard only at the beginning of sleep or on awaking; finally, the hallucination is established during the day.

Finally, we will note, in concluding, that auditory hallucinations disappear at once much more seldom than those of sight. The disappearance, ordinarily, is progressive; the voices become less frequent, less distinct, disappear by becoming feebler, then ceasing to be heard. These are at least the most frequent cases.

Such are the principal characteristics which auditory cerebro-sensory hallucinations habitually present. We will, presently, occupy ourselves with a phenomenon known, also, by the name of hallucination, but which, in our opinion, is essentially different from the preceding.

In the facts which we have mentioned up to the present, we have been able to satisfy ourselves that a sound, more or less clear, more or less distinct, was heard by the hallucinated person. He always *heard*; we will have to do with patients having a knowledge of a voice speaking to them but who can perceive no sound.

<sup>1</sup> —De l'hallucination visuelle, preuve physiologique de la nature de cette hallucination.

A certain number, who feel this sort of impression, insist that these voices come from the stomach, the head, etc.; at all events, I again repeat it, no sound is heard. One of our most eminent alienists, M. Baillarger, in his work on "Hallucinations," has clearly seen that there was here something essentially different from sensory auditory hallucination; he created a new class, which he designated *psychic hallucination*. This has generally been adopted, and it is found in all the classic treatises of to-day. Not long since, however, a physiologist of great acumen, M. Edouard Fournié, has taken up the question and maintained that the phenomenon called, by M. Baillarger, *psychic hallucination* was nothing more than an hallucination of the *language function*.<sup>2</sup> There is, in this manner of viewing the subject, a real progress, and M. Fournié appears to me to be very near the truth when he calls in the *language function* to explain the phenomenon we have just considered. It is not that M. Baillarger, with his rare sagacity, did not perceive that this language function was concerned in psychic hallucinations, since he speaks, in some part of his book, of a sort of ventriloquy, which is observed in certain patients affected with this kind of hallucination. However, I am of the opinion of neither of these two eminent writers, although it seems to me that both have approached the truth very closely. In my opinion there is in these phenomena, neither psychic hallucination nor hallucination of the language function. To admit these hallucinations would be to forget the nature—the very definition of hallucination—to lose sight of the most simple idea of it. What is a hallucination? A sensation which passes the sensory nerve in a direction contrary to normal impressions. Can that be the case in the phenomenon under consideration? Not the least, and, to be convinced, the least amount of reflection is necessary. Of what then is there a question? of an impulse; of the impulse of that function which M. Fournié has so well named the *language function*.

Here a few explanations are necessary.

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2.—Edouard Fournié, *Physiologie du système nerveux cérébro-spinal*.

The gray matter of the convolutions is most probably the site of the images of the external world perceived by the senses. But when we examine the operations of the mind, we find that man is not satisfied with these images, but that for each one there is a sign which represents it exactly. This is not all; both the different aspects of these images, their relations to each other and to their own different aspects are also represented by signs. It is these signs that are the instrument of thought, and the locality of these *image-signs* is also the cortical substance.<sup>3</sup> But a more attentive observation, a more searching analysis of phenomena soon shows us that to these signs, true conventional images, correspond exactly, multiple and varied movements, but precise like them, movements executed by a series of muscles. These muscles, in moving, strike the air in a certain manner, and a series of waves having an exact relation to the movements of the muscles, together with the signs to which these movements correspond, impress upon the tympanic membrane a series of shocks of a determinate nature which, in the transmission to the acoustic nerve are finally brought up to the perceptive center in such a way that, between the cerebral signs and the motion of the muscles, between this motion and the undulations of the air, between these waves and the movement of the tympanic membrane, of the fibres of Corti and of the auditory nerve, there exists a chain without a single interruption. These movements beget the one the other and have exact relations to each other. It is this chain, this cycle of movements that constitutes human language.

In this cycle we have here but two things to consider—the signs which constitute, if I may so express it, the matter of thought, and the series of muscular movements which are bound to these signs. This is truly language viewed from the point of view of him who emits it. The other part of the cycle, also important, interests particularly

3. As regards the precise region of the cortical surface where are localized the image-signs and that spoken of above, it is a question which I will not consider here. Moreover I suppose the reader to be conversant with the prevailing opinions of to-day on this point, and it will be sufficient for me to say that nothing which I advance here contradicts the ideas most generally accepted on cerebral localizations.



larly the recipient, if I may so say; from the position we assume we need not concern ourselves about it, as we regard it language function. This being understood, let us pursue our analysis.

Persons who have the least amount of observation have not failed to remark how intimately connected are thought and speech. Frequently, while reading, although no sound escapes us, we formulate as if interiorly the words, and in an involuntary manner, often unconsciously. I will call attention still further to the fact that it is not rare to be haunted by certain words, by certain musical airs. The persistence of these words, of these airs which occasionally remain in our minds, but which we often pronounce or sing without perceiving it, and sometimes as if in spite of ourselves, approaches sometimes to a point allied to obsession.

The two orders of facts which we have noticed are physiological. The first shows us the narrow union between thought and the expression of a sign perceived by the hearing and the muscular action which transmits it without. The second shows us how near certain pathological effects are to acts purely physiological. Those musical airs which pursue us, those words which remain in our mind, we are able to drive away when in a physiological state. Let us exaggerate the action, this persistence of words to come to the mind, and to complete itself, if I may so say, by muscular movements, which are so near non-formulated thought; exaggerate these things, and we shall have the pathological condition which we are considering under the name of *impulse of the language function*.

Let us then study this impulse, and, in this study, let us not go beyond the rigorous examination of facts.

Patients are frequently met with who complain that words come, or pass through their minds, and when told, carelessly, to drive them away, they answer that they cannot, and that the words come in spite of them. I could cite numerous cases in support of what I here advance; I think that it is unnecessary, and that a simple

statement suffices. However, I wish to remark here that what differentiates the pathological phenomenon from the same phenomenon of physiological life, is this; that, in the latter case, a powerful effort of the will can destroy the impulse, whilst, when a pathological condition is concerned, this modification, by the intervention of the will, is absolutely impossible. If anything could divert the abnormal impulse, it would be some unlooked for sight, during which the production of words, airs and silent voices would cease to re-appear, and it is this that is actually observed. Such is the most simple fact in connection with the language function. Let us continue.

I noted above how patients, to express what they feel, often say that words pass through their heads. But they often employ other expressions which all show well that, in the phenomenon of which they speak, there is no question of auditory sensations. This is what M. Baillarger has especially well shown in his remarkable work; it is this also which has led him to establish a particular class of hallucinations, which he has named psychic hallucinations, and which we are studying at present as one of the manifestations of the impulse of language function. Here are, for example, the different expressions which the patients use to express what they feel: *it seems*, they say, that they hear some one speaking; they contend that they speak from soul to soul; that they understand the language of thought; that they hear thought without a noise. A thought is communicated to them; ideas are brought up in them. Some say that they have a sixth sense—the sense of thought. They are heard to say that they are spoken to by intuition, by magnetism; according to others, it is the language of spirits, a language without words, an internal voice, an inspiration, etc.

Let us now see to what the patients attribute this language without words, these voices without sound.

In the simplest cases in which the alienated have involuntary perception of words, of silent words, it does not appear that they attribute these words to any persons, or, at least, they do not say so, for the fact itself is a

difficult one to ascertain. But there are cases in which these words are credited to beings of different types, at times, acting of themselves; and, again, by physical means, more or less natural; for example: it is the devil speaking in the head of one of them; one who is persecuted will complain that words are made to pass through him by means of physics, electricity, magnetism, magic, etc. Then a sort of diversion of the personality produced in the patient, of which I could give several examples; I will be content with mentioning a single one: A very intelligent patient, whom I attended in a public asylum, was the victim of a delirium of persecution of marked characteristics. He imagined that his enemies had formed a plot against him, that they wished to dishonor him and his family, that he was tormented by the aid of electricity, etc. He had many hallucinations of hearing; he heard clappers, which covered the openings of invisible conduits, by which all he said could be heard, continually open and close; but, besides these hallucinations of hearing, M. X—— experienced, also, the impulse of language function in that form to which M. Baillarger has given the name of psychic hallucination. As, at the time I was treating this patient, I was studying the question which I am now considering, I interrogated M. X—— several times, whom I mentioned as very intelligent on what he experienced, and, among others, this is one of his answers: "Now see," said he, "what a singular thing, and which, most assuredly, cannot be produced but by the aid of means furnished by the physical sciences which are so much advanced to-day; you see, I have only to say a verse, this one, for example:

*"Rien est beau que le vrai, le vrai seul est aimable,"*  
(nothing is beautiful but the truth, the truth only is lovely.)

Immediately something in me pronounces the word: *Boileau*; another verse:

*"On ne peut contenter tout le monde et son pere,"* (you cannot satisfy every one and your father).

And something in me says: *La Fontaine*; and it is not sounds, but words that pass through my head."

Up to the present, in the parts which we examined, the language function was not involved to all its extent, the muscles do not act. We will see a beginning of this action in the following very interesting case which follows and which I have taken from M. Baillarger :

"Certain alienated persons, whilst hearing speaking in the epigastrium, at the same time pronounce words with the mouth closed, after the manner of ventriloquists. The sounds, most often, are so feeble that the patient only perceives them. This is the case actually in a woman in my care, at the Salpetriere. This woman, about 45 years old, was horribly disfigured by a gangrene from which she lost her upper lip. She vainly sought from surgery a means of remedying the defect. The chagrin which she felt from this seems to have greatly contributed to the disturbance in her mind. Besides, she has such a fear that the absence of her upper lip be noticed, that she keeps a handkerchief constantly over her mouth, and she did this with so much care that persons who were about for more than a year would have been completely ignorant of her mishap had they not known it previously. Her delirium is characterized by hallucinations of hearing; the patient believes that she has about her, behind her neck, in her throat, in her chest, persons who are incessantly speaking. Often, if one remains near the bed without further attracting her attention, a very feeble sound, which is produced in the throat and chest can be heard; if she is approached a little more and attention is paid, words and sentences can be distinguished; these words and sentences, the patient insists are pronounced by her invisible interlocutors, and this is really what she hears. Whilst she is thus speaking, interiorly, the mouth is closed, so that there is here a commencement of ventriloquy; this phenomenon can be more clearly demonstrated by asking the woman to address a question to her invisible interlocutors. The answer is then heard and is produced in her throat without her having any consciousness that it is by herself."<sup>4</sup>

If we continue this subject, we will be concerned no longer with what we are accustomed to call hallucinations, but with pathological habits which are usually included under totally different names, although, in our opinion, the manifestations in both cases are essentially similar. We will explain our opinion.

Here is an alienated person who thinks himself possessed, who abuses every one, blasphemes, etc. What is it? Interrogate him and he will also tell you that the words rise in his head; but here we have a new fact to deal with. These words which involuntarily come in the mind of the patient are *pronounced*, and the words have the color of his delirious pre-occupation. A young

4. Baillarger, "*Des Hallucinations*,"

lady affected with hysterical mania, whom I had for a long time under observation, suddenly, without warning, would pronounce two or three unbecoming, if not vulgar words, and that in spite of herself, although she knew and acknowledged their impropriety. What is such an abnormal manifestation, if not a case of impulse of language function? Another young lady, affected with remittant hysterical mania, presented a predominating idea in her delirium. She imagined that it was her duty to re-establish monarchy in France. After a certain time of quiet she would be observed to quit the parlor, where she was occupied with needle-work, and go about predicting the return of the Count de Chambord. For this she always used the same phrase, repeating it a hundred times consecutively. When she had again become calm and was interrogated, she answered that the words escaped her involuntarily, and that it was impossible to stop, no matter how she tried. Could anything but a manifestation of impulse of language function be discovered in this case? What were the numbers of prophets mentioned in the history of insanity, but patients affected with the abnormal impulse which we are now considering?

In the cases which we have examined, the impulse of language function exercises in all its integrity, but not in all its intensity. Let us go a step further. Exaggerate the exercise of the function, push it to an extreme limit, if not to the most extreme, and we have the inexhaustible and incoherent loquacity of mania. Whoever has seen maniacs, knows that speech never lingers on their lips; that words, songs, cries, succeed each other without end, cross each other, and I might almost say jostle each other, mingle, until the patient, by reason of his songs and cries, experiences the greatest fatigue, even to exhaustion. What is this but an exaggeration of the impulse of language function? And if any doubt remain that a real impulse is here concerned, I would assure the reader that I have often times interrogated persons affected with acute mania, during their few moments of respite, which from time to time the disease

grants them, and that I have been able to convince myself of the irresistable, impulsive nature of these songs and cries. These answers I could give in great numbers; I will here cite a single one. One day that I was crossing the garden of an asylum, I was approached by a patient, a young woman, in a full paroxysm of mania. The poor patient seemed broken by fatigue and nerveless; she was bathed in sweat; she had passed the whole morning in singing, crying and shouting. "Alas!" said she, "I am all broken up, I have cried all morning; I cannot do anything!" "Why do you cry so? It hurts you." "Alas! it is stronger than I; *it comes on me and I must cry*, I am going to eat immediately for I will have to begin again." Such are the facts. Who will doubt after this? If, however, the reader is inclined to make some mental reservation, I think, that he will abandon some of his carefulness, if he will but remember the vivacity, the abundance and exaggeration of the gestures of the maniac; what is gesture but a less refined speech, a more energetic mode of expression; and again, it is in those affections where we see impulses predominate such as hysteria, epilepsy, that we observe maniacal incoherence in the delirium, that is to say this form of language is essentially exaggerated as the result of the extreme manifestation of the impulse of language function; for incoherence is not really an elementary complication, of mania; it is a result, an effect, as well in mania where it is produced by a rapid succession of words, as in dementia where it is due to another mechanism and is dependant upon the feebleness of the faculties. As I have written in another place:

"In dementia, the faculties are too weak for the alienated person to connect his words, to arrange his sentences, even, in an imperfect manner. At the least obstacle, the demented person is thrown off the track, if I may be allowed the expression; a word, a simple sound, is sufficient to throw him from one train of ideas to another entirely opposed. Whilst, in the maniac, the incoherence is due to an abundance of ideas and of images which are presented to the mind; in the demented, it is the weakness of the mind which permits the idea to flit away from the want of vigor necessary to follow it in all its phases, and is replaced by another which the first has accidentally called up, and which, in its turn, will not be

completed. If we wished to illustrate, in some concrete form, what is passing in the mind of the demented, we could say that it seems as if the least shock was sufficient to communicate a notion which was propagated in the most diverse directions, but which, being so extremely feeble, were modified by the least obstacle."<sup>5</sup>

Such is the *ensemble* of the facts which we proposed to examine here. If the reader has followed us, he may have been convinced that the phenomenon of auditory hallucination, such as is generally understood, really includes two kinds of facts essentially different; on the one hand, we find a true regress of auditory sensations acquired some time anteriorly: this is hallucination in the true sense of the word; on the other hand, we find a true irresistible impulse, and it is a part of the phenomena, which are a consequence of this impulse, that is ordinarily understood under the name of psychic hallucinations. I hope that I have fixed the conviction in the mind of the attentive reader that maniacal incoherence is the highest manifestation of the abnormal impulse we have just been considering.

But from what we have said, on the difference, which it is meet should be established between true auditory hallucination and psychic hallucination, must we conclude that there is no kind of bond between these two phenomena? Assuredly not—it is sufficient to observe one's own self to be convinced how nearly related auditory sensation is to the production of speech, and even, if I would risk the expression, to non-articulate language. The reason of the connection of these phenomena I would seek after here; I will refrain, however, such a research necessarily leading us to the consideration of subjects, which, the limits we have established for the present subject, would interdict.

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5.—*L'Imagination dans la folie.*

## Art. VIII.—Clinical Notes Illustrative of Consciousness in Epilepsia.

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By C. H. HUGHES, M. D., St. Louis.

ELIZA ELLEN C., aet. 12 years, had spasms in infancy, which often recurred throughout the period of dentition. Of late years she has had very pronounced epilepsy, the attacks of *grande mal* recurring about every fortnight, with frequent epileptoid seizures in the intervals.

This girl came under my medical care, February 1st, 1878, and, under vigorous treatment, speedily improved from a state of apparently helpless imbecility and untrustworthiness, after her paroxysms, to one of good average intelligence and reliability, so that the rest of her family could safely entrust her alone in the house, and permit her to go to school a part of each day. In the following August, after having been six months free from seizures, epileptoid paroxysms were displayed in evanescent attacks of psycho-motor paralysis, recurring every few days, of which the patient was wholly conscious, making "desperate" but fruitless mental efforts, "like one in a nightmare" (as she afterwards stated), to overcome her momentary immobility of limbs and tongue, and attract attention.

(This girl's mother died of consumption, at 41 years of age; her grandmother, of apoplexy; grandfather, of typhus fever; and one of her uncles was insane. Her father is temperate, has pursued various laborious occupations and appears healthy. He can give no more accurate record of the family history than that here given.)



A change in the form of bromides employed, conjoined with mild galvanism of the cervical sympathetic, caused these remains of the epilepsy to disappear; and the girl is now (March 10), though still under steady treatment, free from all reminders of her malady.

Theo. B., age 20, came under treatment in June of 1879, with *grande mal* without aura. His first seizure, in May, was caused by overwork in the harvest field and mental depression resulting from failure to get pay for his work. He has been free from all manifestations of the disease since July, 1880; had a paroxysm of conscious automatism about the first and a brief aphasic spell in the middle of September, 1880.

Annie R., aet. 29, school-teacher, has had spells in which, on feeling a sense of weight on the top of her head, she would fall down *but remained conscious*. Her left arm would at these times be convulsed; often, also, her eyelids. At other times, while teaching she has felt herself become motionless, her eyelids to close and would momentarily lose consciousness and, on coming to, would hear the scholars say: "Ah! look there, Miss R. is going to sleep," recalling the lately registered impression of this exclamation on her auditory centers. Her sister has spells of vertigo—falls down unconscious; and her father had, in his life time, occasional attacks of *epilepsia gravior*. After some of her spells she has headache and is stupid. Three years before she came under my observation the reflected irritation of an ulcerated and prolapsed *os uteri* increased the number and intensity of her attacks. A vigorous specific treatment for epilepsy caused all evidences of her disease to disappear; and, without asking my advice, the patient moved to a distant State and married.

The clearly recognized connection of these milder symptoms, with marked evidences of the graver malady and the fact that a bromide plan of treatment was successfully employed in all of them must silence all cavil as to their epileptic character. While unconsciousness, in *petite mal*,

is the rule, there are, certainly, numerous exceptions, and these exceptions are altogether too frequent and too certainly demonstrable to permit of the dogmatic assertion, that, when there is not unconsciousness, there can be no epilepsy. The unilateral epilepsias and the spinal epilepsias are, themselves, convincing confirmations of the truth that consciousness is not the *sine qua non* of the *status epilepticus*.

The cases we give are recent, and the "doubting Thomases" may place their mental digits in the holes which clinical facts make in their fanciful formularies of true epilepsy. Had we time, we might pile Pelion upon Ossa, and Ossa upon Olympus, until the proof would rise so high that the most imperfectly-visioned might discern it.

Everyone, familiar with all the phases of epilepsy, knows how common, under judicious treatment, are these abortive features. These abortive displays, under treatment, are as well entitled to a place among the varieties as those modifications which appear without medical modification; like the following:

Hattie B., aged 24 years, about the time of her catamenia, has frequently recurring momentary spells of speechlessness, during which she hears people about her talking, and can repeat what they have said, and has excessive downward irritation of the chorda tympani nerve and salivation. Preceding these spells, a peculiar sensation is experienced in her fingers. At the time of these spells, an impulse prompts her to sit down. About once a year she has very bad spells, in which she falls down and knows nothing. She had spasms in infancy and early childhood, and later, at about 12 years of age, she had a series of violent seizures, which were accompanied with falling and unconsciousness. These ceased to recur more frequently than about once a year.

Hattie's mother used to have frequent dizzy spells, and an aunt had "falling fits." Hattie is a domestic, and these abortive attacks come on her while about her work, but, being determined, she does not always lose consciousness.

Other clinical confirmations of epileptoid disease without unconsciousness have been recorded by us (*vide* ALIENIST AND NEUROLOGIST, April, 1880,) and others still might be here enumerated from our own experience, but the testimony would be needlessly cumulative. The recognized and conceded automatism of certain undoubted epileptics in which there is every appearance of a consciousness sometimes, though exceptionally, quite complete, coupled with a psycho-motor excitation and consequent impulsion to travel or perform accustomed, as well as unaccustomed journeys and acts, should, even without the proofs here given, dispel that incredulity which has led some to deny the possibility of consciousness in epileptic states. The idea of unvarying loss of consciousness should take its place with that ancient and exploded, but once thoroughly accredited falacy, which gave to this malady the name of *Morbus Sacer*.

A more or less prolonged state of central non-impressibility to excitation—a delayed periperal mental activity and tardy response to impressions which, ordinarily, promptly excite the ideational centers of the cortex into action—one or all together, characterize epileptic seizures.

When only the latter state exists, the patient may be a mute spectator, as in epileptic aphasia, and in a manner conscious, of the crippled state of his ideo-motor centers.

## Art. IX.—Right Hemiplegia with Left Cerebral Atrophy.

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By H. H. MUDD, M. D., St. Louis.

**D.** T., aged forty years, was an active, energetic man. In June, 1873, he was injured by a blow upon the head, which rendered him insensible for a short time, and he suffered much during the next two months with headache and noises in his head. During this time his hearing was much impaired. He recovered so as to resume his work as a railroad conductor. In October, 1873, four months after the injury, while out shopping, he was suddenly attacked with unconsciousness, accompanied with right hemiplegia and hemi-anæsthesia. During the few months succeeding this attack, his mind was so affected that he was unable to recognize his wife or friends, and unable to make his wants known, or to talk intelligibly. He recovered sensation, motion and mental activity very slowly. He was two years in regaining moderate use of arm and leg. At the end of this time, he had so far recovered that he was enabled to perform the duties of a moderately active occupation. During the last year of life, his nutrition had become somewhat impaired, his motions were more tardy and less accurate, his mind more erratic and less active. During the six months prior to death he was unfitted for business; and notwithstanding his good appetite remained, he became more and more feeble. When I first saw him, February 7th, 1881, he was confined to his bed; pulse normal, tongue moderately clean; entirely conscious, but somewhat slow in his responses. He was able to help himself out of and about his bed. He

had at this time some tubercular deposit in the lungs, with very moderate cough and but little expectoration. About the 10th of February, I observed that the relation between respiration and pulsation was not good, the respiratory movements were too rapid; upon the 11th he became more dull, less inclined to move about and his breathing more irregular and less perfect. On the next day he was stupid with stertorous respiration. He died, February 13th, 1881. During the last few months of his life he had been troubled, more or less constantly with singultus, not very violent or marked in character, one or two spasmodic contractions and then an intermission, followed again by one or two contractions.

Upon making post-mortem examination we found that the dura-mater was normal, but the arachnoid was somewhat thickened and tough, and lifted from the convolutions of the brain by a serous exudation, which was very much more marked upon the left than upon the right hemisphere.

Upon removing the arachnoid a large quantity of serum escaped. The convolutions of the brain were very different in the two hemispheres; those upon the left side being widely separated from each other, thinner and atrophied. This atrophy with separation of the convolutions rendered the fissures of the sulci deep and wide. This was most evident about the fissure of Rolando. The atrophy being much more apparent upon the ascending parietal convolutions than upon the ascending frontal, except at a point where the ascending frontal approached the median line. At this point there was a marked depression in this convolution.

Separation of the convolutions, in the frontal lobe of the left side, was also marked, but the difference upon the two sides not so evident as in the parietal region. Not much difference was observed between the occipital lobes of the two hemispheres. The difference in the convolutions about the fissure of Rolando upon the two hemispheres may be estimated by the measurements of the convolutions. Selecting symmetrical points for

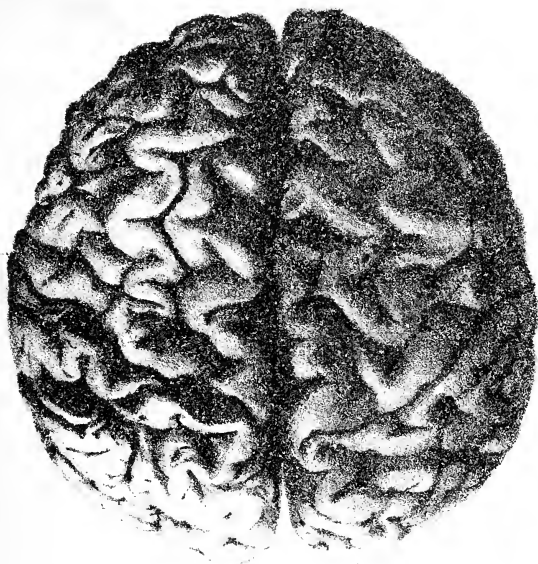
measurement of the ascending parietal convolutions, the left measures 10 millimetres; the right, 12 m.; left, 7 m.; right, 9 m.; left, 6 m.; right, 7 m.; left, 6 m.; right, 10 m. In the ascending frontal, upon the left, 9 m.; upon the right, 10 m. Upon measuring the convolution across the angle at the inferior extremity of the fissure of Rolando, we find the measurement upon the left, 19 m.; upon the right, 22 m. The points selected were symmetrical, but were such as would indicate most clearly the marked difference in the width and fullness of the convolutions.

On making a section of the brain, the ventricular cavities were found to be very large and filled with serum.

There was a small cyst in the left internal capsule, a little behind the middle portion. This cyst was about the size of a navy bean, and represents, I suppose, the hemorrhage that occurred when he was paralyzed.

The corpus striatum and thalamus opticus are much atrophied—having lost about one-fourth in bulk. Instead of a prominent, well-rounded eminence, presenting toward median line, in the third ventricle, there is, at the posterior extremity of this space, an excavation of such extent that the left half of the third ventricle is double the size of the right half. Vertical sections through the basal ganglia of the two hemispheres show marked diminution of these two bodies upon the left side, at all points. The left half of the pons and the left half of the upper part of medulla are flattened upon their inferior surface, and are less bulky. The transverse section of the medulla, below the point of decussation of the anterior pyramids, shows a very marked difference in the two halves of the column; that upon the right side being very much atrophied, and not more than two-thirds the size of the right column.

These changes show an atrophy especially marked in the motor zone in a man who had enjoyed full and free use of his extremities until seven years prior to his death. This atrophy resulted, not from any disturbance in nutrition, through interruption of arterial supply, but the distur-



*a*—Left Fissure of Rolando.

*b*—Right Fissure of Rolando.





bance resulted from functional inactivity, and affected not only the convolutions of the motor zone, of the left side, but also the motor columns of the cord on the side paralyzed.

The history of this case is offered as a contribution confirmatory of the doctrines of cerebral localization. In *Brain*, a journal of neurology, page 434, vol. I., is given an abstract of a paper by Maragliano, which appeared in the *Revista Sperimentale Freniatria*, anno IV., fasciolo I., on the "Localization of Motor Functions in the Cortex Cerebri," in which he cites the fact that Bourdon has made a collection of twenty cases of paralysis—or arrested development of a single limb and amputations—with atrophy of the cerebral cortex.

Death occurred in this case, I think, from a sudden accession to the serous exudation, which had distended the arachnoid and filled the ventricular cavities. This accession to the exudation was the last expression of failing nutrition; a failure which was dependant almost certainly upon innervation.

The atrophy observed in the corpus striatum and the thalamus opticus of the left side, might possibly be, in part, attributed to a direct disturbance of the vessels passing through these ganglia, by this cyst or blood clot. But the atrophy of the convolutions must be attributed to the lack of functional activity, for their blood supply was abundant and was not disturbed by the lesion of the basal ganglia. So, also, must we find a solution for the atrophy of the right half of the cord in its functional inactivity, for the man never regained sufficient control of his extremities to make them very active members.

The site of the hemorrhage in the internal capsule, the destructive character of the lesion, as is evident in the size of the cyst, the utter prostration which accompanied the attack, and the slow and imperfect recovery, all indicate the serious import of the lesion.

The atrophy of the frontal as well as of the parietal convolutions suggests the question whether the mental

and motor activity, which was regained in the paralyzed side, was due to a re-establishment of the functional activity of the left hemisphere, or whether it was due to the supervision of the hemisphere which was undisturbed in its functional activity—the hemisphere upon the paralyzed side.

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## ➤: SELECTIONS. :◀

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### CLINICAL PSYCHIATRY AND NEUROLOGY.

AGORAPHOBIA, BY DR. CORDES.—Since his first work on the fear of spaces, (*Platzangst*), the author has had the opportunity of observing fifty-four new cases. Of the patients who were affected, the youngest was aged nineteen and the oldest thirty-five years; the greater part were men in their full vigor; all were intelligent and not without ambition. But one woman was affected with agoraphobia, and this affection was coincident with Basedow's disease.

The results of the cases were as follows: thirty-five cured, twelve improved, and three not cured. These last includes only those patients who did not wish to comply with the prescribed treatment, and who lost courage in a short time. Amongst those who were improved, were noticed three affected with exophthalmic goitre, two who had nocturnal pollutions, and one with cirrhosis of the liver. In forty-one cases, Cordes noticed one of the three causes which he had heretofore assigned to agoraphobia, i. e., exaggerated intellectual labors, venereal excesses, prolonged disturbances of digestion; in fact, all symptoms which produce irritable feebleness of the nervous system.

Cordes is of the opinion that the fear of spaces never occurs in hypochondriacs; never has he observed in agoraphobia the symptoms which characterize hypochondria, and he objects to Jolly's interpretation which tends to confound these two diseases. We know, besides, that such was the opinion of Legrand du Saulle, who would

not admit such an assimilation. The author does not think, either, that this symptom can be compared to the vertigo experienced by tourists in their ascents (Benedikt); in his opinion the whole is a muscular feebleness whose starting point is a purely intellectual phenomena. Cordes has not studied the influence of heredity, as Legrand du Saulle did, nor what possible action on the development of the disease the abuse of coffee would exercise.

As to therapeutics, the author cannot speak in favor of bromide of potassium, which only determined an increased weariness in the patients. Hydrotherapy and alcohol have given him the best results; but the majority of cures were effected by the moral influences which the physician exerted over the patient; it is by turning attentive the will of the latter, by exciting his energies, that we must hope to achieve a triumph.—(*Lyon Medical*, Dec. 12, 1880.)—*Archiv. fur Psychiatrie*. x. l. p. 48, 1879.

WORD BLINDNESS.—M. Magnan reported to the Society of Biology (*Gazette des Hopitaux*, Jan. 24th, 1880), some illustrations of this form of aphasia. One patient, a month after an attack of right hemiplegia and aphasia, gradually recovered speech, so that he could understand and respond orally to spoken language, but could not read either print or any kind of writing, not even his own hand. Another patient who could express himself in his own words, or in words repeated to him, could not comprehend written words or gestures.

M. Magnan cited a similar case from M. Brouardel, in which the autopsy revealed a *focus of hemorrhage* at the posterior part of the fissure of Sylvius, adjoining the *pli courbe*.

In these cases he thinks the retinal image is first impressed on the quadrigeminal bodies, thence transmitted to the *pli courbe*, the psychic visual center, or perhaps about the occipital convolutions, where it is first perceived as a sensation and received by the attention and memory; but the ideas called into being at the visual center can not be expressed in speech unless the communications between it and Broca's convolution are unimpaired. If they are interrupted the patient can still see, speak and hear, but can not acquire through his eye any new idea. This phenomenon being purely psychic, there being no disease of the eye, it might be better described as cerebral word blindness.—Abridged from Abstract in *Brain*, for January, 1881.

DR. JOSEPH DRAPER ON RECOVERIES FROM INSANITY.—Of the thirty-six recoveries, twenty-three recovered from a first attack, five from a second, three from a third, one from a fourth, one from a fifth, two from a sixth, and one from a seventh. Two cases are worthy of mention as recovering from an unusually long continuance of insanity, and after all expectation of such a result had been abandoned. Neither of the two were cases of primary attack; one had been twice before insane. In this case four and a half years elapsed before any signs of improvement appeared in his prospects, and convalescence, which was gradual but steady, occupied another twelvemonth. In the other about four years elapsed before any signs of recovery were apparent, but the change was decided and well-marked, and convalescence covered about four months. Much of the preceding four years was lost to his memory. It was a recovery from a fourth attack. The average duration of insanity in the remaining thirty-four cases, was a fraction under six months.

Included in this record was one case in which insanity was probably feigned. The percentage of recoveries varies much in different years, and depends altogether upon the nature of the cases admitted. If an unusually large number are dependent upon organic disease the curative results are unfavorably modified. This has been the case in the admissions of the past two years to a greater extent than usual, as will be seen by reference to the table of causes. The percentage of recoveries upon the admissions is a fraction above twenty per cent. In a few cases patients have been removed before convalescence had been fairly established, but have gone on to ultimate recovery. Such are discharged as "improved." Had they remained longer they would have added to the number of "recoveries." Altogether the actual results of the period past do not vary materially from the average of previous years.—*Biennial Report of the Vermont Asylum for the Insane, ending July, 1880.*

DR. DANIEL CLARK VS. CEREBRAL LOCALIZATION.—Dr. Daniel Clark, Superintendent of the Asylum for Insane, Toronto, in a monograph entitled "Brain Lesions and Functional Results," holds that, so far as the evidence goes to show, if localization of function exist in the brain, it is in the central and basal ganglia, and not in the cortical areas. He gives a large number of cases, in which traumatic lesions of the cortex of the brain have

been found over all its surface, with no functional results following; and where they did follow, they were not of such a nature as the localizers assert, always following injury to these parts. He says:

"Medical literature is full of evidences of destruction to brain matter on the surface of the cerebrum and cerebellum, without any serious impairment of mental power or physical function. Let a brain be taken and wires passed through it to indicate the course of the missiles in those cases I have mentioned, and it will be seen that brain substance has been injured in almost every conceivable direction, yet, with no physical or mental results at all commensurate with the lesions inflicted. If these parts are motor centers, then have we the miraculous phenomena of organic operations without an organ, of varied and distinct functions without a motive power, and and of uniform results without an efficient cause? Were we even to consider the brain a dual organ, the difficulty would remain. In all the dual organs of the body we find, sudden injury to one is always followed by imperfect work in its fellow, until time be given to allow provision to be made for the extra labor imposed. When we find no impairment in function consequent on destruction of *one* so-called motor center, we are led by uniform analogy to doubt a doctrine so anomalous and contradictory. At least it is best to accept with caution a theory based upon exceptional examples, and which does not account for physical results except in isolated cases."

Dr. Clark again says: "The periphery of the brain doubtless has much to do in stimulating to action the central and lower ganglia. In the latter are found the distinctive seats of functional activity, and in the superimposed mass the residency power to impel but not to direct; to give additional vitality, but not to indicate the *mode* and *direction* this force is to take. This discriminative power is left to be performed by these central glands which are safely situated in the center of the sympathetic and active auxiliaries. Not only is this true in respect to function, but it is equally true as respects sensation. Sensation and function have a community of interests and are *focalized* together. In this way the surfaces and upper portions of these nervous masses become adjuncts to the supremely vital organs in the center and base of the brain. The former give power but do not impart function; they are auxiliaries but not necessities to the

ganglionic centers; they intensify energy but do not direct; they are, as it were, additional cells to the vital battery, but they are not its controlling agent. This explanation would account for the fact that, traumatic injury and destruction from pathological processes are not always followed by functional and mental unsoundness."

The various points may be summed up as follows:

1. The radical difference found in the circulation of the blood, both as to mode of distribution and quantity, leading to the reasonable inference of greater functional activity existing in the center than in the circumference of the brain. The more life-action in any part, the more is blood supply needed.

2. The want of uniformity in functional results, when definite and alike portions of the central substance are stimulated, impaired or destroyed, evince this cannot be the seat of so-called motor centers.

3. It would be consonant with pathological and experimental facts to locate these motor and psychical centers in the base and central ganglia, yet in sympathetic relations, being influenced but not absolutely controlled by the cortical substance.

4. The want of distinctive physiological features in the different convolutions, lead us to infer from analogy that no such centers can exist in identical structures, with really no true dividing lines between these so-called organs.

*Atrophy of the right cerebral hemisphere, with hypertrophy of the thalamus opticus.—Epileptiform attack; left hemiplegia, contracture of the left upper extremities.*

Adolph P. had, at the age of two months, convulsions and an epileptic attack, with the precursory cry and sleep after the fit; following this he became suddenly hemiplegic.

Since that time the convulsions and the fits have re-appeared regularly, almost every month. It was only at the age of nine years that he entered the hospital Ste. Eugénie, service of M. Cadet de Gassicourt. He presents a distinct hemiplegia on the left, affecting both limbs and not involving the face; no trouble with sensation but atrophy of the paralyzed limbs. Stiffness exists in the upper extremity but still not contracture, properly so-called. The intelligence is very feeble. At the same time there are ganglionic enlargements, suppuration and fistulæ of

the cervical and submaxillary ganglia. July 9, 1877, the patient left for Bourges, where he remained two years. On his return, we note the same paralytic symptoms, but the convulsions are not reproduced. Contracture of the left upper extremity; the fore-arm is at a right angle with the arm. He died, June 10, 1879.

At the autopsy we find amyloid degeneration of the liver, of the spleen and of the kidneys. After having raised the calvarium, we find an effusion of serosity on the surface of the right frontal lobe. The hemisphere on this side is notably atrophied. It weighs 365 gms., while the left weighs 490. The atrophy effects specially the convolutions. The thalamus opticus has a considerable volume. In comparing it with that of the opposite side, and noting the hardness which it offers to the touch, we might even believe that we have to do with a tumor of the thalamus opticus of oval form and making a very apparent prominence. Microscopical examination has demonstrated that it is produced by a simple atrophy, and that there exist there only normal elements.—Proceedings Anatomical Society, Paris.—*Le Progres Medical*, April 3, 1880.—*Nelson*.

LATHAM'S NEUROSAL THEORY OF ACUTE RHEUMATISM.—Professor Latham (Cambridge Medical Society, November 5th, 1880), maintains that action of the "inhibitory chemical center," or nervous center, which controls oxidation in the muscular tissue is lowered. The oxygen from the oxyhæmoglobin, instead of entering the muscular tissue to be exhaled therefrom in the form of carbonic acid gas, has its sojourn in the tissue shortened, and passes into the blood in the form of lactic acid (a substance which appears in muscle almost instantaneously with its death;) the oxygen acts also more energetically on the muscular tissue, and the resulting lactic acid being oxidized rapidly in the blood, instead of in the muscular tissue, an abnormal amount of heat or pyrexia is developed.

Quinia lowers temperature by simply impeding the carrying of ozone from the lungs to the tissues by the red blood-corpuscles, as in Binz's experiments with ozonized turpentine and guaiacum; and so the remedy *might* act beneficially in rheumatism, but would have no effect on the *materies morbi*. Salicylic acid, on the other hand, lowered the temperature and cured the disease by chemically combining with the substances from which the lactic acid is derived, and producing less heat than would result

from the oxidation of that substance. The theory advanced explains the relapses which so often recur after apparent cure with salicylic acid, the necessity for large doses of the remedy, and the reason why it should be less curative in other pyrexial disorders, such as pneumonia, typhoid fever, etc. Referring to the locomotor ataxy as an example, he suggested that possibly the local symptoms might be the result of the lactic acid acting upon the posterior columns of the spinal cord, producing functional change; and in reply to a question, in the discussion afterwards, as to the connection between rheumatism and chorea, considered that this disorder was the result of the lactic acid inducing functional change in the nervous center which co-ordinates muscular movement, that center being weak, and therefore a point of minimum energy, and this condition being hereditary or acquired. He also applied his theory to explain why the same cause (cold) which in one person appears to produce acute rheumatism, in others produces pneumonia, tonsillitis, etc.

Dr. Latham has extended his theory also to diabetes. If it be true, it ought, he says, to explain the phenomena of that disease with a normal or subnormal-temperature, and he maintains that the lowered nerve action is sufficient to do this. Salicylic acid may cause the sugar to disappear from the urine and lessen the amount of that secretion without altering the condition of the nervous system upon which the symptoms depend.

SEPPILLI ON TENDON REFLEX.—The physiological and clinical importance which, since the recent researches of *Erb* and *Westphal*, the study of the *reflex tendon* has acquired in cerebro-spinal affections, has induced *Dr. Seppilli* to make, on the insane patients in the asylum of Reggio, a series of inquiries on the presence and the degree of this phenomenon. The article is based on the examination of a hundred and seventy patients. We present the principal conclusions:

1st. Tendon reflex presents different grades of intensity in the various forms of mental diseases as well as different facility in its production.

2d. The reflex of the knee was established more frequently than that of the foot, and in both it may be wanting, without the existence at the same time of the phenomena of *tabes dorsalis*.

3rd. The rotular reflex appeared distinctly more frequently in states of over excitement, than in those of



depression and mental enfeeblement, whether acquired or congenital.

4th. In hemiplegias of cerebral origin, of remote date, it was exaggerated to such a degree as to produce clonic spasms of the foot and sometimes the knee also, which may be observed occasionally some hours after the inception of hemiplegia. Forced flexion of the great toe does not arrest the spasm of the foot.

5th. In the degeneration of the posterior cords, extending to the lumbar enlargement, there is complete abolition of the reflex of the knee and foot.

6th. The tendon reflex enters into the class of spinal reflex, and is probably effected through the excito-motor arc, differently from the course through which cutaneous reflex activity is induced.—*Revista Sperimentale*.

CONNECTION BETWEEN THE MENTAL STATE AND UNEQUAL PUPILS IN GENERAL PARALYSIS.—Dr. F. W. Thurman (in the *Journal of Mental Science*, April), states: Among 946 admitted patients, of whom 440 were men and 506 women, there were 116 paralytics, 83 men and 33 women; of these 116 paralytics, 73 showed inequality of the pupils. In 24 of these the left, and in 28 the right pupil was the larger, and in 21 no record was made in regard to the side. Of the 28 with the right-sided enlargement of pupil, 18 (or 64.3 p. c.) suffered with depression, and 7 (or 25 p. c.) with exaltation. Of the 24 with left-sided enlargement of pupil, 15 (or 62.5 p. c.) suffered with exaltation and 6 (or 25 p. c.) with depression. The result of this comparison, therefore, seems to show that generally, depression is coincident with enlargement of the right and contraction of the left pupil; exaltation, on the other hand, with contraction of the right pupil. Contraction of both pupils is often an early and persistent symptom, while enlargement of both pupils appears in the later stages. For the correct appreciation of this change in the pupils, the author calls attention especially to the close connection between the oculo-motor nerve and the corpora quadrigemina, and attaches especial importance on the experimental experience, that an irritation of the corpora quadrigemina after section of the sympathetic nerve of the neck, do not cause an enlargement of the pupil in consequence of the paralysis of the nerve-fibres, which supply the radiating muscular fibres of the iris. He considers it probable that the enlargement is a sign of sensorial irritation, since sudden painful irritation of sensitive nerves is often

associated with enlargement of both pupils. The author assumes, that the right hemisphere is the center of exaltation and the left hemisphere that of depression, and supposes exaltation and grandeur of ideas to be due to irritation of the one, and conditions of mental depression to be due to irritation of the other center.

THE CEREBRAL CAPILLARIES IN BRAIN DISEASE.—I have not yet dissected one adult brain, either from persons who died accidentally in apparent health, or from persons who had suffered from brain disease previous to death, which did not contain, in the one or in the other convulsion, more or less marked evidences of gross alterations in the capillary system. These were represented by the presence of remnants of capillary vessels, which, at one time or other, by causes unknown, must have been cut off from the general circulation. They are found preserved, embedded in the cerebral tissue, forming rigid shrubs, of larger diameter than the living normal capillary, with thickened, longitudinally striated walls. At the one end they show commonly a kind of knobby dilatation, which, at one point, runs out into a long filament, probably the collapsed sheath of the unaltered portion of a capillary vessel. Frequently, but not always, they exhibit a slightly glassy appearance, and offer a great resisting power to the influence of acids and alkalis, as well as to ether, chloroform and alcohol. They are of a cartilaginous consistence, and I have never observed any alteration of tissue in their immediate surroundings. Aside from a little granular material, occasionally met with in the tubes, they seemed to be filled with a uniform, slightly refracting substance, and the only theory in regard to their origin, which I can suggest, is that they are, as indicated in the foregoing, the remnants of occluded, dilated, and finally degenerated capillary vessels, which have become infiltrated with an inorganic compound, in combination with an albuminoid, which is indifferent to the chemical processes occurring in those parts of the living organism.

It remains to state that the principal seat of this alteration of the capillaries is the gray cortex of the cerebrum; next to this they are occasionally met with in the central gray ganglia, and in the pia-mater. In the white layer, in the pons Varolii, the medulla oblongata and the spinal cord they must be exceedingly rare, if they ever occur. By this, of course, I do not mean the occlusion of

capillaries *per se*, but the peculiar processes which follow the occlusion, and which lead to the formations above described. In over three hundred examinations of the portions of the brain mentioned, and in twenty-one of the chord, I have never met with a single case.—Abstracted from "The Structure of the Vessels of the Nervous Centers in Health, and their Changes in Disease;" Part IV, by Theodore Deecke, Special Pathologist, New York State Lunatic Asylum, Utica; *American Journal of Insanity* for January, 1880.

INSANITY CAUSED BY ATROPINE.—Dr. Paul Kowalewsky ("Zeitschrift" xxxvi. Band, 4 Heft) gives an account of a man who was apparently rendered insane by a large dose of atropine.

In the case described, the derangement appeared shortly after the use of atropine salts introduced into the eye during the treatment of an eye disease. The insanity declined in a marked degree under the use of morphia. It lasted ten days in all. The pulse was habitually high, varying from 80 to 96. The patient, a man who had well-nigh lost his vision, now felt as though he was surrounded by a halo of light, and things appeared on a large scale. He saw around him beasts, birds, crowds of people, uncommon kinds of trees, grasses and other plants. Everything burned, cried or sung. All objects were in continual motion and change; ants, flies, beetles and other insects seemed to creep over his body. He saw beautiful furniture and rare jewels. He also said that he saw the tree of life, the knowledge of good and evil, the blessing of God, and other abstract ideas realized by visible figures.

The patient was so weighed down by fear that he was afraid to move about. Sleep deserted him and he was suspicious of those around. Sometimes he forgot his distress, and became pleased with the visions that surrounded him; and sometimes he sank into a state of musing and absence of mind, from which only powerful motives could arouse him. The symptoms in many respects resembled those of delirium tremens, but the objects seen were generally of a large size, whereas as a rule they appear to be small in alcoholic delirium.—*Journal of Mental Sciences*, Oct. 1880.

PATHOLOGY OF INFANTILE PARALYSIS.—The *Edinburgh Medical Journal* for February presents a series of eight colored illustrations of the microscopical appearance,

found by Dr. Byron Bramwell, in post-mortem cord sections of a case of infantile paralysis reported to the Medico-Chirurgical Society at the meeting, January 5th. The history of the case and the microscopical appearance are given as follows:

#### MICROSCOPIC EXAMINATION OF THE SPINAL CORD.

The lumbar region of the cord presented the typical appearances which constitute the lesion of infantile paralysis, viz.: destruction and disappearance of the large motor-nerve cells of the anterior cornua, together with atrophy of the anterior (motor) nerve roots proceeding from the seat of the lesion. In this case the lesion was comparatively recent (four and a-half months' duration from the onset to the time of death). The nerve cells at the seat of the lesion were replaced by fatty globules; a considerable number of leucocytes were scattered through the anterior cornua, and, indeed, through the gray matter generally; the connective tissue corpuscles of the gray matter were more numerous than in health; some of the blood-vessels in the anterior cornua seemed abnormally large and dilated; fatty globules, similar to those replacing the nerve cells, were observed adherent to the outer coats of some of the vessels. The white columns of the cord were perfectly healthy.

The lecture by the same eminent physician in this and the March numbers of the same Journal, before the Extra Academical School of Medicine, on "*Intra-Cranial Tumors*," is also a valuable contribution to this subject and adds greatly to the usual high value of this excellent medical periodical.

VERGA ON RUPOPHOBIA.—(*Myophobia of Hammond and Beard*).—Under the term *Rupophobia*, Verga designates an anomaly of sensibility and of instinct, from which some individuals have always a dread of being contaminated by objects touched by them, and are, therefore, in such continual apprehension and inquietude, as to become troublesome or even dangerous to others. This anomaly places its subjects along side with the subjects of claustrophobia and agoraphobia and similar affections. It is presented in various degrees, and is usually very obstinate—though not reaching the point of necessity for asylum confinement.

The author relates two very grave typical cases observed by him; one, that of a young student, and the other that of a woman of middle age—a wife and mother.

FRIGERIO ON VASCULAR ANOMALIES IN THE BRAINS OF THE INSANE.—The author instances the frequency with which anomalies in the circulating system of the insane

are presented. In thirty-seven autopsies, such anomalies were met with twenty-one times; they consisted in the diminutiveness and imperviousness of the posterior communicating arteries; transposition of origin and course in the posterior and cerebral, and the posterior communicating arteries; in the want of an arterial trunk (substituted by a capillary net-work), and in the defective development of the arterioles of nutrition.

FIVE YEARS INOCULATION OF THE VIRUS OF RABIES CANINA.—At a late meeting of the Académie de Médecine, M. Colin related the case of one of his patients who had just died of hydrophobia of two days' duration, the result of a dog bite received in Algeria, on the 2nd of November, 1874. One of the man's comrades who had been bitten at the same time by the same dog, died of hydrophobia in eight days after the receipt of the bite.

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## EXPERIMENTAL NEUROLOGY.

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DR. BROWN-SÉQUARD, after a series of experiments, announces the conclusion that cutaneous and mucus chloroformic irritations of certain nerve termini, produce effects similar to those following inhalation. A few drops of chloroform inadvertently falling on a guinea-pig, between the shoulder and neck, causing instantaneous convulsion, led to subsequent experimentation. When he and his assistant, Henoque, poured chloroform on the necks of these and other small animals, temporary anæsthesia followed. Repeated experimentation and excessive chloroformization, sometimes caused hyperæsthesia and death. The muscles became unusually irritable, the irritability persisting after death to a greater degree than is commonly observed in healthy animals killed by opening the chest.

In certain cases galvanic irritability of the phrenic nerve opposite to the applied chloroform was diminished or lost. Brown-Sequard notes this fact as the first instance of impaired muscular excitability from remote irritation. Chloroform enemata or inhalations neither produce nor prevent these latter phenomena. These inhibitory effects are seen in guinea-pigs venesected in the cervical region of the cord, but only when the chloroform is applied on the same side and behind the site of the spinal lesion.

Other experiments were confirmatory. The effects were the same on those following absorption and direct impression on the nerve centers. Fuller accounts appear in *Gazette Hebdomaire*, Nov. 1880, and fuller still are to be published by the author.

PERIPHERAL MUSCLE REACTION.—Dr. Augustus Waller (*Irain* Part X), suggests that "patellar tendon-reflex," is merely a peripheral reaction of muscle, and only a test of spinal conditions in the sense that other peripheral reactions of muscles (electrical or mechanical) are. He measured the interval between percussion of the tendon and contraction of the muscle, and found that on the normal human subject the interval does not sensibly differ from the latency of the muscle to electrical excitation of its substance, or of its motor nerve, and that these intervals between percussion of a muscle and its contraction, and between percussion of a motor nerve and contraction of a supplied muscle, do not differ more than can be accounted for by differences in the intensity of stimulation, the normal interval or latency of all these phenomena being from 2-100 to 3-100 of a second.

*Effects of pulling and stretching the cervical cord.—Effects of hydrated and anhydrous chloral.—Unilateral and bilateral effects of poisons.—The therapeutics of nerve stretching.*

M. Brown-Séquard gave the different results of pulling the cervical part of the spinal cord. He has long ago demonstrated that this act determines the arrest of the heart's action, and an immediate change in the color of the venous blood, which becomes red. Different experiments prove that this phenomenon is due to a direct action of the nervous system. On the other hand, we observe, in animals which have undergone stretching of the cervical marrow, a general anæsthesia. This is specially marked in guinea pigs; in larger animals, the same general phenomena take place, but the experiments are less clear, on account of the greater resistance of the spine.

To conclude what he had mentioned at previous meetings on the *effects of hydrated and anhydrous chloral*, M. Brown-Séquard said that death, caused by anhydrous chloral, cannot be attributed to the formation of chloral hydrate, judging from experiments taken altogether.

In a third communication, M. Brown-Séquard proposed a new method of investigation in the study of the *action*

*of poisons.* This method is based upon the differences observed in the sides of the body in those animals which have been the subjects of the injection of toxic agents, all the vascular and nervous communications remaining intact. It is thus, for example, that chloroform exercises an opposite effect on each side of the body, producing the double effect of inhibition and dynamogeny. If the poison acted but upon one side of the body, the fact would be sufficiently important to remember to prove that poisons may act, not only by the intervention of the blood solely, but also through the medium of the nerves, and that they exercise an influence at a distance. The nervous and muscular irritability is increased, in the side corresponding to the application of the poison, in an almost constant manner.

*M. Dumontpeller* asked *M. Brown-Séquard* if he could elucidate the subject of *nerve-stretching*.

*M. Brown-Séquard*:—I can only say that the results of nerve-stretching in locomotor ataxia ought to have been expected. The production, artificially, of ataxia in birds, by pricking the bulb, or only the membranes covering it at the point of separation of the posterior pyramids, would lead us to consider ataxia as dependant upon irritation. It ought then to be expected that other irritations would be able to modify this disease in a more or less happy manner.

*M. Laborde*:—The question of nerve-stretching has long since been placed in the domain of experimental therapeutics; witness the idea already ancient of the arrest of epileptic attacks by sudden torsion of a finger. *M. Laborde* presented to the Society a guinea-pig, in which he produced a spinal and well-marked general epilepsy, by a section of the cord. The stretching of one of the sciatic nerves caused the spinal epilepsy to disappear almost completely; perhaps the general epilepsy will be modified by stretching the other sciatic nerve. It would be interesting to note the state of these stretched nerves and the ascending modifications of the cord.—*Société de Biologie* [*Le Progrès Medical*, Jan. 29, 1881].—*Dumesnil*.

LUCIANA ON CONSECUTIVE TRAUMATIC CEREBRAL EPILEPSY AND ITS HEREDITY.—The various dogs and cats, on the brains of which the author had operated in the asylum of Reggio, and which had furnished the principal material in the experiments of *Tamburini* on the *psycho-*

*motor and sensory centers*, published by him at that time, were all retained in life, and taken care of by suitable persons, in order that the ultimate effects of the cerebral mutilations might be observed and studied. The following important facts have thus been established:

Of about fifty dogs, deprived of a portion of brain (in the frontal, or occipito-parietal region), almost all perished from repeated intense epileptic seizures. The only exceptions were two dogs, which were found dead without known cause, and in which no epileptic symptoms had ever been observed. The times, at which the animals operated on were attacked by epilepsy, varied. Some were seized soon after the cicatrization of the wound of the cranium; but more frequently after three to six months, and, in the latest, after a year and a year and a-half. The fits were, at first, mild and distant, the intervals being twenty to thirty days—becoming, afterwards, gradually more intense and frequent; finally, they passed into the *status epilepticus*, that is to say, they were repeated many times daily, and the fit preceding death lasted several hours. Nothing of certainty can be stated as to the manner of production and extension of the epileptic convulsions in the different animals, as the statements of the persons who witnessed the occurrences were of too general a character. The author, however, does not hesitate to apply the facts exactly examined and described by him in his preceding *memoir on epilepsy*, in relation to the diverse modes of the range of the convolutions, according to the position and extension of the extirpated cerebral zone. It is understood, *per se*, that the position, the extension and the functional nature of the cerebral area mutilated, may, and should, have had influence in determining the described differences of the invasion, and of the course of the epilepsy, although the *data* for establishing the fact of their mode of actions is wanting.

The important fact is certain, that *the dogs mutilated in brain, became sooner or later subject to epileptic fits, which progressively increased in intensity and frequency until death*. That which was formerly regarded as a rare and almost exceptional eventuality, may, therefore, to-day be considered as an ordinary and, perhaps, constant occurrence.

The author is inclined to extend to the cats the same fact, on the ground of a few observations made on these animals also. At the present time there is living in the asylum a cat operated on some time ago, which is subject,



periodically, to epileptic convulsions which are followed by a sort of post-epileptic impulsive mania.

Another important fact observed by the author is the *heredity of epilepsy*, or rather of the *acquired epileptic predisposition* in sequence to *cerebral mutilation*.

A bitch, whose brain was operated on thirteen months before, was covered by a dog that was operated on nine months before. Neither the one nor the other had as yet presented any epileptic symptoms. From the copulation, eight puppies were borne, five of which lived in full health about one month, and were then seized, at short intervals after each other, by general convulsions of well characterized epileptic form. The fits soon became very frequent, and ended in the *status epilepticus*, under which all the five died, one after the other. In the autopsies the brains showed no asymmetry, nor any constituent anomaly. The cases were therefore of *hereditary predisposition to epilepsy*, in dogs begotten of parents with mutilated brains.

A kitten born of cats operated on by brain mutilation, was taken about once a week with general convulsions, after which it was subject to a sort of well-marked impulsive mania.

From these facts useful practical conclusions may be drawn. Clinical cases of partial or general epilepsy, consecutive to cerebral traumatism, have been noted and published, especially of late. Even in man it seems, therefore, that brain lesions tend to terminate, sooner or later, in epilepsy. Proceeding further in application of the facts furnished by animals, it may be held as probable that individuals injured in any way in the brain, whether by wounds or by apoplectic *foci*, may transmit to their posterity a strong predisposition to epilepsy, even when they have not themselves yet been seized by it.

EFFECTS OF EXCITING THE CERVICAL SYMPATHETIC.—At a meeting of the Société de Biologie of Paris, M. Laffont made a communication on "The effects of exciting the cervical sympathetic in the dog." At the meeting of Oct. 16, he gave the result of his researches at the excitation of the cervical sympathetic, and the removal of its superior ganglion after section of the corresponding vago-sympathetic. These researches had been evoked by the reading of the recent labors of MM. Dastre and Morat, published at the Academy of Sciences (Aug. 16), and in the *Bulletin Scientifique du Nord*, (Aug. 1880), where it is stated that *the delators which include, notably*

*the superior maxillary and the inferior maxillary, do not arise from the bulb, but from the thoracic region of the cord.* But M. Laffont, having removed the superior cervical ganglion and cut the vago-sympathetic in a dog, was enabled, twenty days after, to produce on that dog primitive vasso-dilatation of the upper lip, of the hard palate and of the velum palati, by exciting the peripheral extremity of the superior maxillary nerve corresponding to the side operated upon, which presented all the symptoms of paralysis of the sympathetic.

Hence, as M. Laffont said, Oct. 16, the theory of medullary dilating centers advanced by MM. Dastre and Morat must be entirely abandoned, as far as the bucco-labial region is concerned. At the same meeting, M. Laffont had advanced the statement that the vaso-dilating effects obtained by MM. Dastre and Morat, by exciting the cervical sympathetic, were due to a reflex action on the nucleus of an intra-bulbar origin common to the three nerves: the glosso-pharyngeus, the pneumo-gastric and spinal accessory. He withdraws this assertion and explains the cause of error.

If excitation of the vago-sympathetic be practiced in the normal dog which has taken no anæsthetic, it is observed that if the exciting current is of short duration, that is, does not exceed ten seconds for strong currents and thirty seconds for feeble currents, the paleness of the tissues is increased during the passage of the current, then gives place, little by little, to a paralytic redness, which can again be produced during the passage of a current of long duration, even when the glosso-pharyngeus, pneumo-gastric and spinal accessory nerves have been torn out by the intra-cranial method mentioned by M. Laffont. In these experiments, the animal must be under the influence of atropine, that there may be no arrest of the heart's action during the passage of the current.

In his first experiment, M. Laffont permitted the current to pass until there was paralytic exhaustion of the sympathetic, whilst after tearing out the nerves bundle, making an excitation of the least duration, he only considered the active effects of the electric excitation, his attention not having been attracted to the possible paralysis of the sympathetic as a consequence of the weakening of the tissues after work that has been endured, or of its exhaustion during work of too long duration.

The experiments, which M. Laffont repeated before the Society, demonstrated the truth of what he advanced.

1. On the dog, which had the right vago-sympathetic divided, and the superior cervical ganglia removed since eight days, faradisation of mucous membrane of the tympanum (experiment of M. Vulpian,) on the right side provokes bilateral redness of bucco-labial and lingual mucous membrane.

Hence the dilating center of this region is not in the dorsal marrow.

2. Excitation of the cephalic extremity of the cut vagus, produces no vaso-dilatation of the opposite side.

3. Excitation of the intact vago-sympathetic provokes anæsthesia of the region during the passage of the current, then progressive reddening of the region,

4. M. Laffont explained besides, that if, after section of the superior maxillary, excitation of the corresponding vago-sympathetic produce no reddening of that side, it is simply owing to the fact that the inhibitory nerves of the region, which pass close to the superior maxillary nerve, together with the dilating nerves, have been cut at the same time as the others, and consequently cannot be brought into action by exciting their central extremity.

At the meeting of the same society held Dec. 4, 1880, the subject discussed was the phenomena of excitation determined by applications of chloroform. M. Brown-Séquard said that if we inject chloroform into the ear of a guinea-pig, about ten minutes later the animal is seized by convulsions and by the phenomenon of rolling of the same side, exactly as if there had been a lesion of the semi-circular canals. There is complete anæsthesia of the same side and the eye is drawn down. This phenomenon of turning or of rolling may last six to eight days. Sir James Paget relates the story of a person in high station who went to consult a quack for earache. The charlatan injected several drops of nitrate of silver, and, as there was a perforation, the semi-circular canals were injured, and this high personage began turning around for several days, which did not prevent his returning to the charlatan. It is good to know these facts, and to know the method of assuaging tooth-ache by injecting chloroform in the ear, is not without danger.

Another point in relation to former communications, by M. Brown-Séquard: the phenomena consecutive to the application of chloroform on the back of animals are not

produced unless the application be very extensive. If it is limited, only a part of the phenomena are produced.

M. Howel:—Surgeons often have chloroform drop on their fingers; do they expose themselves to the production of any of the phenomena described by M. Brown-Séquard?

M. Brown-Séquard:—No; because a cutaneous surface is required much more extensive than that represented by the pulp of the fingers. I have plunged the four extremities of an animal simultaneously in chloroform, without producing any effect. At all events, since several months that I have my hands constantly saturated with chloroform, I have experienced certain phenomena which are certainly one of this local action.

M. Dumontpallier refers to the following, which he has already given to the Society: Having an abscess to open on the right arm, he sprayed ether on the left arm, and anæsthesia was momentarily deep enough in the right arm that incision could be made without pain. But these phenomena of crossed anæsthesia are very ephemeral.

SYNCHRONISM OF THE CARDIAC VESSELS AND OF THE VENTRICULAR CONTRACTIONS.—M. Brown-Séquard has noticed this for a long time, that the cardiac arteries beat in a rythmic manner, which is that of the ventricles. There is then, evidently, a relation between the beats of these vessels of the heart and those of the ventricles.

THE MOTOR CONVOLUTIONS OF THE CEREBRUM.—The Fissure of Rolando (*C*, Fig. 7) runs from about the center of the great longitudinal fissure downwards and forward towards the base of the brain. The Fissure of Sylvius (*S*) takes its way from the base of the brain, behind the origin of the olfactory nerves, upwards and backwards; a short, steeply and anteriorly-ascending depression makes junction with it near the base, and is known as the anterior or ascending branch (*S'*), whilst the remainder of the fissure is designated as the posterior or horizontal branch; and the territory embraced by these two branches is the operculum or "cover" to the tissues lying within the depths of the main fissure. The Fissure of Sylvius and the Fissure of Rolando may justly be regarded as the two principal fissures of the cortex, and they are also among the earliest that are developed in the foetal brain, the former appearing at about the third

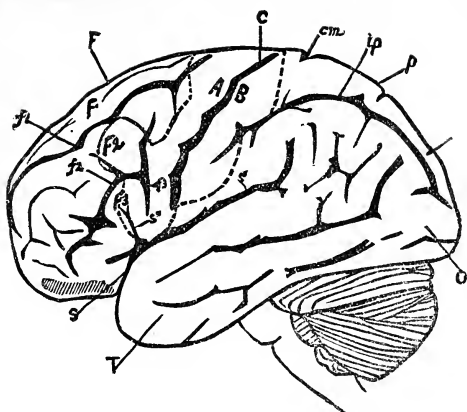


FIG. 7.

month, and the latter at about the fifth. They are certainly the most salient and the most appropriate from which to take our departure in studying the others. All that portion of the hemisphere anterior to the Fissure of Rolando is the frontal lobe; whilst that region which is posterior to it and above the Fissure of Sylvius is the parietal lobe, with the exception of the extreme tip posteriorly, to which the name of the occipital lobe has been given. The territory inferiorly to the Fissure of Sylvius belongs to the temporal or temporo-sphenoidal lobe. It will be observed that the Fissure of Rolando is the only large one that *ascends*; all the other fissures having a direction more or less horizontal. This remark necessarily applies also to the convolutions that border it; of which the anterior one (*A*), belonging to the frontal lobe, is known as the ascending frontal convolution, whilst the posterior one, which is a part of the parietal lobe, is called the ascending parietal convolution. The fissures extending more or less horizontally along the frontal lobe are the upper (*f*<sup>1</sup>) and the lower (*f*<sup>2</sup>) frontal fissures; the vertical frontal fissure (*f*<sup>3</sup>) runs at right angles across the inner end of the lower frontal. The convolutions of these fissures are designated numerically, from above downwards. The one above the upper frontal fissure, between it and the great longitudinal fissure, is the first frontal convolution (*F*<sub>1</sub>); that between the upper and

lower frontal fissures is the second frontal convolution ( $F_2$ ); that between the lower frontal fissure and the Fissure of Sylvius is the third frontal convolution ( $F_3$ ). Let me add that when the lips of the Fissure of Sylvius are pressed apart, a number of minor convolutions will be seen ridging the surface of a hillock of gray matter at the bottom of the sulcus, this mound-like elevation being the Island of Reil; and this will be all of the cortical topography upon which the title of my paper will permit me to linger. With the action of the remaining convolutions in health and disease we are by no means so accurately acquainted.

The gray matter of certain of these convolutions forms the supreme terminal stations of the motor nerve-fibres that have come up from the spinal cord. These are the "motor convolutions." If I remove the skull-cap of a rabbit, expose its motor convolutions and irritate them with a mild current of electricity, there will immediately ensue a series of muscular movements, that will continue as long as the irritation lasts. The same experiment has been performed with like results upon other animals, even upon monkeys; and a sufficient number of pathological cases has rapidly accumulated to enable us to distinguish, with some show of accuracy, those convolutions in the human brain, in which disease induces muscular spasms or paralysis. These human motor convolutions, as far as we are now warranted in making a positive statement, are the ascending frontal and parietal, and the bases of the three frontals. The irregular outlines of this region are delineated by the dotted lines in Plate 7. A more exact localization, for the limbs and facial muscles, is frequently given by those who speak with authority; but I do not think that our present knowledge will warrant us in attempting more than a general outline, such as I have ventured.—Dr. Landon Carter Gray, in *Anatomical and Surgical Annals*, vol. II., No. 10.

MECHANICAL VIBRATIONS FOR THE RELIEF OF NEURALGIA, ETC., by means of a series of rapidly succeeding blows, is D. Mortimer Granville's method, which he accomplishes by an instrument of his own devising. *M. Bondet* has also recently called attention to this subject in *Le Progrès Medical*, a full account of which appears in the *Philadelphia Medical and Surgical Reporter*, March 26th.

## CEREBRAL AND NEURO-THERAPEUTICS.

ON HYOSCYAMIN IN MENTAL DISEASES.—*Scppilli and Riva*.—After having exhibited the effects established by the employment of amorphous and crystallized hyoscyamin, in about forty cases of mental disease (mania acute, chronic and paroxysmal, lypemania agitata, dementia agitata), the authors conclude that there are no good reasons for much recommending it. Leaving out curative action, which they say it does not possess, hyoscyamin, considered as a sedative or hypnotic, possesses according to their experience only two indisputable virtues, from which it is superior to chloral, and these are:

1st. The facility of its administration—made by way of hypodermic injection—without irritating the skin. They made more than four hundred hypodermic injections of hyoscamin, and never met with any unpleasant consequences.

2d. The great promptitude and certainty of its action. In a few minutes, by its means, they have reduced at various times the agitated patients of a ward to calm and silence.

From these facts, they believe that hyoscyamin will prove of great utility in those cases in which, when it becomes imperative to remove very unquiet and noisy patients from their residence to an asylum, it is necessary to employ safe and efficacious means to calm them in the shortest possible time, so as to render their transference easier, less dangerous their control, and less necessary the use of corrective means, which, at such times, are very irritating to them. They hold it to be equally useful when the patients refuse to take chloral by the mouth, and the administration of glysters becomes quite impossible because of their resistance.

The dose of hyoscyamin ordinarily used by them was one to five milligrammes, once daily. In some cases of chronic mania and of dementia agitata, with a view to prolong the state of calm, they administered it three times daily—at 8 A. M., 4 P. M., and 10 P. M., from 0.004 to 0.005. In two cases of chronic mania, they pushed the doses of hyoscyamin to three centigrammes daily, divided into three injections.

PESSARIES AS DEPILATORIES.—The President of the British Medical Association, Dr. J. C. Browne, related at the last meeting of that body at Cambridge, a case seen

in consultation with Dr. Lawson Tait some years ago, where a bearded melancholic lost her beard and recovered her sanity after the introduction of a galvanic pessary.

**OÖPHORECTOMY FOR MENSTRUAL EPILEPTIC MANIA.**—Before the same Society and in the *Journal of Mental Science* for last October, whence, also, the preceding item is abbreviated, Dr. Lawson Tait reports the case of a girl, æt. seventeen, who had had during her menstrual life severe menstrual epilepsy, culminating in periods of acute mania. The girl's ovaries were removed and *found to be perfectly healthy, but the effect of the operation was an immediate and marked improvement in her physical health, an entire omission of the mania*, and a diminution in the fits from fifteen in the month to three, with a marked amelioration in their severity. Dr. Tait looked for further improvement.

**STRYCHNIA** for nocturnal enuresis has been successfully employed hypodermically, near the sacral spine by Dr. Kelp. His results are reported in the *Gazette Hebdomadaire*.

**BULLET IN BRAIN SIXTY-FIVE YEARS.**—The editor of the *Medical and Surgical Journal*, Dec., 1880, records the history a soldier, who died sixty-five years after having received a bullet in his brain at the battle of Waterloo. The missile entered the cranium over the left eye.

**EDUCATION OF THE SENSE OF COLOR.**—Dr. H. M. Bannister (*Journal of Nervous and Mental Disease*, Jan.) examines this question critically and decides that in a certain proportion of cases color-blindness is capable of being much improved by tuition.

**DIABETES CURED BY ERGOT.**—Dr. E. McClellan, U. S. A., reports, in *Louisville Medical News*, the recovery after four weeks treatment, of a polyuric patient, aged thirty years, under half drachm doses of extra ergot fluid, every four hours. The patient had voided from ten to twelve quarts of pale acid urine daily.

**TURPENTINE INHALATION FOR WHOOPING COUGH.**—M. Barity, of Nice, in (*L'Union Medical*, Nov. 1880), saturates the room in which the sick child sleeps and spends most of its time, with the odor of turpentine, with the effect of rapidly diminishing the number of crises, and greatly reducing the severity of the disease and its average duration to less than a month.



THE RELATION OF MOTOR NERVE NUCLEI TO MUSCLE.—Dr. John J. Mason ("Microscopic Studies on the Central Nervous System of Reptiles and Batrachians," *Journal of Nerves and Mental Diseases*) asserts that the nuclei of the so called motor cells of the central nervous system have, in the same individual, average diameters, which are proportional to the power developed in the related muscles.

FUNCTIONS OF THE SPLEEN.—M. Malassez said, that Schiff attributes to the spleen a function which is important in relation to the digestion of albuminoid substances. On a dog, whose spleen had been removed more than two years before and whose autopsy had been made, it was found that the pancreas still continued to digest fibrine. The spleen evidently then has not the function attributed to it by Schiff.—*Gazette des Hopitaux*, Dec. 7, 1880.

TO ABRUPTLY TERMINATE ANÆSTHESIA, Schirmer titilates the interior of the nares, claiming that reflex central excitation may be induced by peripheral irritation of the fifth pair of nerves, when sensibility to external impression is dead elsewhere. This is an old, and long known fact to which Schirmer simply calls renewed attention, the *dernier resorte* of suspended vitality and impending dissolution from anæsthetics or otherwise, being the nose and ammonia.

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## ✻ EDITORIALS. ✻

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THE RIGHTS OF THE INSANE.—In this age of active effort for all the rights of man, it is not singular that the rights of the insane should claim our attention, and the medical profession having been the first to emancipate them from the thralldom of that coercive restraint, which fear, superstition and ignorance prompted to be employed towards them, it is eminently proper that the physician should consider what other things besides the breaking of their chains should be done for these helpless wards of humanity. Great things, to the honor and glory of medicine, have been done for them by physicians in charge of hospitals for the insane, but all that they have desired has not been accomplished, because of the apathy and indifference of Legislatures and other opposing influences.

The recommendations of the Association of Superintendents of American Hospitals for the Insane have, in the main, been wise, and when they are carried out, as they ultimately will be—by the law-making and money-disbursing powers of the several States of this Union—the welfare of these afflicted ones will be greatly promoted.

The chief rights of the insane are:

*To so much liberty* as is not incompatible with their physical comfort and security from physical disease and violence, or with their mental welfare; to such *timely restraint and treatment* as their welfare—mental and physical—requires. Their restraint should be non-coercive, and, so far as practicable, non-irritating. They have a right to demand of us, and, could they see themselves as we see them, they would demand the study of the difficult question of restraint—mechanical, personal and medical—without passion, prejudice or sentiment, in such a calm and cautious manner, as that the greatest good to the greatest number might be subserved in consequence.

The principle of non-restraint, in contra-distinction from the coercive violence of past generations, is correct, and Connolly's reform has worked great good, but, by misinterpretation, it is just now in danger of working great harm in its application for *non-irritating restraint* of morbid actions, propensities, impulses, passions, emotions and ideas, is one of the principal foundation stones of successful psychiatric therapeutics. In all of our efforts at morally ministering to minds diseased the principle of rest applied to the disordered and morbidly active faculties is the true therapeutic principle, and this is to be secured by *restraint diversion*, as well as by medicines.

The insane are entitled to that kind and degree of control, without violence or irritating coercion, over their erratic mental actions, especially in the curative stages of their malady, which will give them the best chance for the speediest possible restoration to the usefulness of rational life. Time is valuable to them, and sanity and liberty were as sweet to them, in their best estate, as they are to us; and it is our duty to do towards them as we now would wish to have done towards us, should we become similarly unfortunate.

This does not forbid all possible liberty compatible with their physical comfort, and security from physical disease and violence, and with their mental welfare, and the peace and safety of the community.

While the acute and curable stages of insanity demand for the insane a restricted liberty, varying in degree according to the particular form of insanity, the chronic or hopeless forms demand a more enlarged liberty, to be varied also according to the nature of their manifestations of insanity, and their capacity for enjoyment. The ineradicable scar of a spent disease of the mind and brain, provided it leaves its unfortunate victim in a condition to harmlessly enjoy liberty, either to himself or of others, is no justification for asylum restraint. The aged and infirm insane who have ample means to secure for them home-attention and comfort equal to those of the best hospitals should not, in the advanced and hopeless stages of their malady, be sent away to die in an asylum, unless retention at home is absolutely prejudicial to their safety and welfare, or that of those about them.

All men are equally entitled to life, liberty and the pursuit of happiness; and when, by reason of disease involving the mind, the life, to which all are entitled, is, in individual instances, in danger, it is our duty to restore it if we can, and, when that liberty must be abridged, it should

be circumscribed to that degree only, which is essential to secure, to the victim of disease, an early return of the normal capacity to re-enjoy the pursuit of happiness; and, during the progress of their treatment, the pursuit of happiness, in a normal way, should be encouraged.

Hence it is that hospitals for the insane with all the essentials to promote the happiness of their afflicted inmates, must of necessity be expensive establishments, and it becomes the duty of physicians who have influence in matters medical with the public to understand this subject, and co-operate with asylum superintendents in recommending expenditures for everything necessary to make the life of the insane enjoyable, and their disease speedily curable. Duty, philanthropy, science and economy, all demand this. When, in battle, a soldier is rendered *hors de combat*, it is his right to go to the rear for that surgical aid his condition demands; if he is not able to take himself, it is the duty of his comrades to convey him there, and of his country to provide for his wound; likewise, in the battle of life, if a mind is maimed beyond self-resource of relief, it is the moral duty of friends, and the bounden duty of the State, to properly care for that wounded mind. And it is our duty, as physicians, to fully understand what that duty is, and, as the natural guardians of the rights of the insane, to see by every means in our power that their rights are secured to them. Insanity is a subject for general medical thought, and the insane are pre-eminently the wards of the profession of medicine.

While no one should be deprived of liberty without due process of law, as the constitution of the United States guarantees, one of the sacred rights of the insane is to have laws so framed in their behalf, that, in the maintenance inviolate of this constitutional guarantee, undue publicity should not be given to their misfortune, nor, in its execution should the insane man's disease be aggravated, and his chances for restoration, to that condition which makes the rational pursuit of happiness possible, be put in jeopardy by a public trial. The laws in every State should be so framed in the insane man's behalf, as to secure for him a lawful and careful examination by an adequate number of skilled medical men, who, in accordance with the forms of law, shall bear sworn testimony to the facts of insanity and the necessity for hospital treatment in order to secure the welfare of the patient, or the peace and safety of the community; and the law should hold the certifying physicians to a strict accountability, under severe penalties for careless or criminal certification.

The insane man has a right also, not only to such *easy access to hospital treatment* as will afford prompt chance for recovery, but to the best possible medical treatment, embracing all the aid which advancing science can give towards his restoration, and to have the benefit of that kind of skill which comes of proper experience with the insane, and to this end merely political appointments of hospital chiefs and rotations in office of medical superintendents for political considerations, should be discountenanced by all Governments, as an outrage on the insane man's rights, and it is our duty, as physicians, to endeavor to protect him in this right.

In the hospitals, the insane man has a right to have fire-proof and otherwise safe apartments, and to such a system of internal espionage in

all institutions for the insane as will secure him against the clandestine violence and abuse of heartless and brutal attendants; and to this end superintendents and boards of trustees should have a detective system, such as now is in operation in many asylums.

The *epileptic insane* should be separately provided for in detached buildings, with rubber floors, and without heating coils upon which they might fall, and in order that sensitive patients may not witness their horrifying contortions.

The non-criminal insane have a right to be separated from a class to which they never belonged when rational; and the States that have not provided asylums for insane convicts should be importuned to build them without delay. The criminal, vicious, depraved and outcast are not the kind of companions they would choose if sane; and such uncongenial companionship should not be forced upon them. Innocence should not be domiciled with crime.

The *almshouses* and likewise the penal establishments, should be emptied of all mental disease, and its victims given the *care due to disease* rather than the *surveillance* of pauperism and crime.

*Separate provision* should be made, also, for the idiotic and the feeble minded, and these feeble ones should likewise be protected against the possibility of neglect or abusive treatment in their abodes.

The *chronic insane*, in whom there remains sufficient normal mentality to appreciate their surroundings, should never be forcibly consigned to institutions designated by the State as homes for incurables.

It is always practicable to provide ample opportunities for labor and enlarged liberty for this class in remote wings or annexes to the main building, or in residences contiguous to the farmer, gardener, dairyman or carpenter, who reside on the asylum grounds.

And, finally, the insane have a right to expect of us; and could they see us as we may see ourselves, they would demand of us, as physicians, to make a study of insanity in all its relations and all the rights of the insane, and knowing their rights, to dare maintain them against all opposition of ignorance and prejudice and public parsimony, and to protect them as we would wish to be protected, were we in their places, by an enlightened and influential medical profession.

EFFECTS OF CERTAIN PERIPHERAL IRRITATIONS ON THE BRAIN AND CORD AND ON THE PRODUCTION OF SLEEP ESPECIALLY.—Among the peripheral influences which modify the state of the circulation and induce sleep, as shown by M. Onimus and others, is electrization of the sciatic nerve. In a number of M. Onimus' patients, profound slumber followed the application of the continuous current along the course of this nerve. He found it easier in some persons to thus cause sleep, than by galvanizing the cervical ganglia. This fact, and the remembrance of Brown Sequard's experimental section of the sciatic causing epilepsy in some animals, and the fact any day demonstrable of the increase of the circulation and temperature of the ear of rabbits from sciatic excitation, lead M. Onimus to some important, practical conclusions in regard to the hygienic care of the lower limbs, especially in children. They have led him to condemn fashion's exposed calves and inadequately protected lower limbs.

The vessels of the cord, too, and especially those of the gray substance being congested by reflex action, it is thus that paralysis often results. While excitation and irritation of any peripheral nerve may impress the centers in the cord or brain, the irritated sciatic nerve exerts the greatest central influence. It is from irritation of this nerve, according to M. Onimus, that the greatest arterial tensions follow in the vessels of the brain and cord.

It is through the favorable central changes that take place in the cord in consequence of peripheral irritation, that Brown-Sequard has recently explained the improvement and relief following nerve stretching in *Tabes Dorsalis*. The practical deductions are obvious.

**PERSISTENCE OF NORMAL AUTOMACY IN THE INSANE.**—Nothing among the insane is more commonly observable than the blending of habits of thought or action, which, by oft repetition in the days of their sanity, had grown automatic with the changed conduct of mind and body, brought about and impelled by disease. It is the volitional life and normal spontaneity of the individual which first and mainly changes under the influence of that degree of cerebral disease which carries the individual beyond the bounds of sanity.

How accurately, for instance, will the artisan or professional man perform the long ago acquired and often repeated details of his daily avocation, even amidst such a degree of morbid mental tumult as would, theoretically, appear impossible to one not convinced of the dual possibilities of cerebral function.

We have seen an insane farmer follow, and as accurately handle, the plow as in the days of his best mental estate; a physician diagnosticate and correctly prescribe for diseases; and a lady sing and play at a piano, with accuracy, an intricate but long ago acquired air; while their minds were under the dominion of a tumultuous, absorbing and consuming delusion to such a degree, that no new acquisition of any kind could be taught them. Dr. W. W. Ireland, in one of last year's numbers of the *Jour. of Mental Science*, related the case of a patient "exemplifying this in a remarkable degree." The man pours forth a torrent of words, sometimes stating the wildest delusions, sometimes giving vent to the most uncount combination of words in astonishing variety, where one can perceive no connection, or a strange association between the words, and the words and the ideas often, in an excited and frenzied manner, and, in the midst of all this mad talk, he will go on working in a calm, methodical way; for example: he will plant out leeks, tracing the lines regularly and putting in each plant at an equal distance from each other. Dr. I. did not remember ever to have heard this man make a coherent remark, but he saw the ingenious snare for birds which the man had made, and he once showed Dr. I. two blackbirds which he had caught." [We remember just such a man who worked with our gardener, doing, every fair day, a moderate day's correct work, though he displayed no such mechanical ingenuity as Dr. Ireland's patient.]

There is often an appearance of method in the manners of madmen, both in acts having all the semblance of sanity as well as in those which are clearly irrational in appearance.

Every properly managed asylum, affording ample opportunities for the display of rational conduct in the line of long accustomed and familiar avocation, furnishes illustrations very much like Dr. Ireland's case. Cases like them are sometimes seen at work in the laundry and dairy as well as in the workshops and about the farm and garden.

**MUSIC IN MANIA.**—In the empirical therapeutics of the psychosis, music is one of the oldest, if not really the most ancient of recorded remedies. Ever since the sweet harmonies of David's harp tranquilized the mind of Saul, and caused the "evil spirit to depart from him," its power to sooth and calm the troubled mind of the insane has been recognized, and the practice of Æscelepiades, in regard to this agent, has become general in all our hospitals for the insane.

The potency of enlivening airs and martial music in certain melancholic states is well known. The music of the dance in calming some and exciting others is a fact of daily observation, as familiar to alienist-physicians as the tranquilizing influence of the long, sweet notes of the melodeon.

The organ, the piano, the harp, the violin, the guitar, the flute, the fife, the triangle, and all of the contrivances of man for making concourse of sweet sounds, not excepting the brass band and the bag-pipe, have a place in ministrations to certain minds diseased, and may be made to aggravate or benefit the insane.

Recently Dogiel has sought to ascertain with some definiteness the power of music over the circulation. He finds that the blood pressure under the influence of music sometimes rises and sometimes falls, though the hearts contractions were generally increased.

The dosage of music like that of electricity is a subject yet open for further elucidation. This agent has hitherto been employed in our hospitals for the insane in too empirical a manner. It is possible to give to it a more scientific value, and use it to advantage in the cure of physical as well as cerebro-mental disease, in the general hospitals, as well as in the hospitals for the insane. What more agreeable cardiac excitant, for instance, in states of physical depression, than music?

The example of the asylums in having music in certain wards and placing in them the patients to whom the music is mentally agreeable and beneficial, might be advantageously followed in our general hospitals. Let them have music and birds and flowers, as well as coarser physie.

THE *Chicago Medical Review*, which, within a year, donned two different names, not long ago objected to the name of this Journal, and now it thinks our designation of certain insane states is superlatively "crude." When we speak of *insanity of utero-gestation, of lactation, of tuberculosis, of paralyzes, etc.; the acute psychic disturbance of cerebral hyperæmia, of delirium tremens, the dementia of senility, of central and reflex melancholia, etc.*, we think the general practitioners, to whom our address on "*Problems in Psychiatry*" was delivered, and for whom it was solely intended, understood what mental conditions we meant. Every alienist, too, understands these designations. They express the morbid states to which we referred better than any other appellations with which we are familiar.

The attempt to deal with the psychosis alone as an indication for treatment rather than the individual case, says the *Review*, "will always prove a failure." Applying this criticism to "Problems in Psychiatry," We think our designations, which the *Review* calls *classification*, as near a success as could be reached in the limits of an essay. We might, in a volume, have been more explicit and more *tedious*.

Whenever the *Review* does better in the same direction, we shall cheerfully "step down and out," and let its alienistic editor ascend the *banister* that skirts the steps that lead far beyond our humble standing-place to the giddy heights of psychiatric fame.

If the neurological department of the *Review* will accept a suggestion from so humble a source, we offer the following: Classification in psychiatry, embracing only single cases, would not be *classification*.

No one classification in psychiatry is yet so inexorably fixed, or so universally accepted as to exclude the terms which we have employed. On the contrary, the best practical writers accept, use and comprehend them, as correctly expressing cerebro-mental states that cannot be better designated.

No one of the many systems proposed can be exclusively employed by writers upon different aspects of the subject. Classification based on etiology, pathology and symptomatology have each their merits and uses with writers in psychiatry, and are preferable according to the purpose in view.

In the present state of psychiatric pathology to insist upon strict and entire conformity to any of the recent classifications of mental disease appears pedantic, and smacks of *megomania* (so called).

PROGRESS IN PSYCHIATRY.—It is our duty to make a respectful protest against the views which are entertained and have been expressed in a form to attract attention, that the insane should not be certified for admission to the hospitals, unless in addition to insanity it shall further appear that the individual is unsafe to be at large—dangerous to himself and to others. The general acceptance of this doctrine would quite overthrow the humane and professional tendencies of a century, and change the asylums and hospitals from their distinctive character as medical establishments. The usually received theory, that insanity is a disease or disorder requiring medical and moral means for its cure and management would soon be surrendered, and asylums and hospitals would degenerate. They would become simply the wretched places of detention and imprisonment they were a hundred years ago—a result which we do not believe those who have announced the views referred to desire, or the possibility of which they have contemplated. The hospitals and asylums of the present day are the results of slow and patient work for many years. To weaken and destroy public confidence, to undo, to initiate the process of disintegration may be the work of a day.

Among the evidences of medical progress which have marked the past few years is the increasing interest manifested by the profession in the study of insanity, and in diseases of the nervous system. This is owing, partly, to the necessity of greater care and knowledge required

in the preparation of medical certificates of insanity for commitment to the hospitals; to the increase in the number of the insane requiring advice, and to great advances made in neurological science. It indicates a departure from a former line of medical thought, and a disposition to found a system of pathology which shall have for its basis the nervous organization. The profession is to be congratulated on having made such an important advance. Many functional disorders are now known to have their seat primarily in disease of the nervous system. The bearing these disturbances have, directly and indirectly, on the production of insanity has not received the attention from the profession they deserve. These disorders present themselves first to the general practitioner, and their significance as factors should be recognized and more carefully studied.—*Dr. John B. Chapin*, Superintendent and Physician Willard Asylum for the Insane, Willard, New York.

**A DETECTIVE SYSTEM FOR HOSPITALS FOR THE INSANE.**—While we do not approve of a system of espionage upon medical superintendents of hospitals for the insane, because it is unreasonable to suspect them of countenancing cruelty to their patients and impossible for them to be directly cruel, since they have little to do with the immediate restraint of patients, we recommend to physicians-in-chief and boards of management the employment of trustworthy detectives, to go among the patients in the capacity of attendants and sometimes as patients, and bring to light cases of clandestine abuse. It should be known in every hospital that violence to patients is absolutely unpardonable, and that the omnipresent detective in disguise is there to report abuses. One of the inalienable rights of the insane, is protection from abusive violence, and whenever violence results to a patient, no plea of self-defence should exonerate the attendant from dismissal.

If a struggle takes place between attendants and patient, and a blow is given to the latter, whether justifiable or causeless, the attendant should lose his place. The security of an institution of this kind from suspicions of abuse of patients can only in this manner be accomplished, and it were better that an attendant should occasionally wrongfully suffer, than that the possibility of undetected abuse should exist in an asylum for the insane. Every day people suffer, the world over, for their misfortunes as well as their faults, and the wrong to an attendant is not so great, if he be discharged in accordance with an inexorable rule of this kind, as when the dismissal is exceptional; and only after inquiry as to where the blame lies, when, in so many cases the real degree of culpability can never be ascertained.

Only some such rule as this, coupled with extreme vigilance and the severer penalty of lawful punishment for assault not unavoidably done in self-defence, will divest asylums of the occasional fiends in human form that, under fair exteriors, find employment in even the best regulated and most vigilantly conducted hospitals for the insane.

**DR. CHAS. K. MILLS** has been appointed Lecturer on Insanity in the University of Pennsylvania. He delivers one lecture per week on the above subject, and will visit the insane hospitals of the State with those of his class who desire to go.



ONE OF THE LETTERS read at the late Boston meeting for the protection of the insane, displays an ignorance so lamentable of the recommendations and achievements of the Association of Superintendents of Hospitals for the Insane in this country, as to seriously impair any influence the writer might exert in the direction of that real advance in psychiatric matters, towards which every true philanthropist and alienist aspires.

The aim of the Association of Superintendents of American Hospitals for the Insane has been to abolish, so far as practicable, all direct mechanical restraint; and where it could not be abolished, to so construct hospitals and fashion the surroundings of the insane as to reduce their restraint to a minimum.

While the Superintendents have urged every needed expenditure to this end, for secure, but unprison-like hospitals, so constructed within, as to diminish the likelihood of casualties, and for well-paid and intelligent attendants, they have often been met with charges of extravagant ideas; likewise, when fire-proof buildings have been urged as the only kind of structures in which to domicile the insane, cheap cottages have been suggested, as though they would not burn; and when the necessity of providing adequately for all of the States' insane in such a manner as that they may be under medical care, has been persistently urged as the only fair thing, the farming-out plan, the Gheel Colony, the Scottish System and similar methods of semi-abandonment of these wards of the State have been urged. All of these suggestions, cheap to-day but dear to-morrow, and practicable only in exceptional cases, leaving the great mass of the insane still to be provided for, are made on the score of economy, while the paramount question of *duty* is not considered. The insane are entitled to the most humane, safe and skillful methods of care, regardless of the necessary expense. It is fortunate, however, that the best methods are the cheapest.

THE SPECIAL USES OF HYOSCYAMIA.—The smallness of the dose and its ready solubility in alcohol, well adapt it to hypodermic medication.

The promptitude and completeness of its hypnotic action without headache or constipation as *sequelæ*, make it a peculiarly available and a therapeutic agent in insomnia and delirium. In delirium tremens and in those forms of the acute delirium of recent mania, in which *illusions of small and near objects abound*, it is of signal service in dissipating these morbid errors of perception.

Like all other narcotics, to most certainly and speedily accomplish the purpose of its administration, it should preferably be given to the patient while he is recumbent and at the usual time of sleep with the patient.

To avoid the abortive excitant effect (hallucinations, delusions, hemiopia, ambliopia, etc., which sometimes result from small doses inopportunistly given), the full dose—one-fifteenth to one-twelfth of a grain should be given at the natural hour for sleep, in the sleepless excitement of mania or delirium.

The value of hyoscyamus has been so long and favorably known to practical alienists, that the alkaloid must at once take a conspicuous and efficient place in the therapeutics of the acute psychoses.

**GREAT PHYSICIANS FOR GREAT PLACES.**—We believe in large responsibility for medical men, and in large-minded physicians, capable of taking such responsibilities. If other men can command fleets and armies, and manage railroads, insurance companies, banks and other corporations, why should not medical men be capable of conducting a properly, but subordinatedly, officered hospital?

The medical man who consents to take the responsible position of head of a hospital for the insane or general hospital, without the privilege of selecting his associate medical staff and other subordinate officers, stands on perilous ground, holding his position, as it were, by the sufferance of his subordinates, who are not responsible for the management of the establishment. The best form of hospital government, as of civil government, consists in clearly defined powers, for chief and subordinate executive officers, a definite responsibility for the chief executive, and such prerogatives as shall make that responsibility real, efficient and unhampered.

Some medical men are never so happy as when they are belittling the capacity of physicians, and, from the estimates they continually put upon their brethren, the public would infer, if it believed them, that medical men are an inferior sort of men.

**DR. WORKMAN'S TRANSLATIONS.**—The *Revista Sperimentale de Freniatria e di Medicina Legale* thus attests the fidelity of Dr. Joseph Workman's frequent translations from the Italian for this Journal. "With lively satisfaction to ourselves, we find, reproduced in full, several recent articles, which first saw the light in our *Revista*, and, for which polite consideration, we would tender our deserved thanks above all to that very talented and learned alienist, Dr. Workman, Medical Superintendent (retired) of the Insane Asylum, at Toronto, one of the most active collaborators of the ALIENIST, who made the translations."

**LIGHTNING AND CANCER.**—Dr. A. Allison (*London Lancet*) heard the late Dr. Golding Bird say that electric sparks drawn from a cancerous structure till an eruption occurred, were the only reliable means of cure that he could endorse. Dr. Allison gives the history of a farm-laborer struck by lightning, whose life appears to have been lengthened ten years by the disappearance of a cancerous disease.

**COMMUTATION WITH OTHER JOURNALS.**—We can make very satisfactory commutation rates with first-class medical journals, which we will cheerfully give to our subscribers. Name the journal you may want, and we will inform you on what terms we can send it in connection with ours. We only offer this to subscribers who are new to the other journals.

Since psychiatry and neurology take in the whole field of medicine, certain medical journals are indispensable. The younger men among our subscribers ought to have, at least, half a dozen journals we might name in connection with our own. The days of one journal or one book are gone.

**HONOR TO DR. JNO. P. GRAY.**—The Societe Medico-Psychologique, at its meeting, November 29th, unanimously conferred on Dr. Jno. P. Gray, the Physician-in-Chief of the Asylum for the Insane, at Utica, N. Y., the deserved honor of associate foreign member of this honorable body of distinguished alienists.

TAMMASSIA, *Revista Sperimentale*, fasc. iii. and iv., anno vi., maintains that rapid death in hanging is not the direct effect of compression of the pneumogastrics. There may be corollaries deducible from this fact which will yet prove profitable to both pathology and physiology.

JUSTICE TO BRAID.—Mr. Braid appears likely to have justice done to him at last. "Some years ago we pointed out the important bearing of hypnotism on mental disorders, in this journal, in an article entitled 'Artificial Insanity.' Subsequently, in 1872, the writer, in his work on the 'Influence of the Mind upon the Body,' insisted on the interest and influence of hypnotism in mental therapeutics. The progress of scientific truth, if certain, is rather slow. It has taken some forty years for the British Medical Association to repair the error then made in refusing to hear a paper by Mr. Braid on his discoveries, when it met at Manchester."—D. H. Tuke, in *Journal of Mental Science*, Oct., 1880.

#### MEDICAL SOCIETY MEETINGS.

THE INTERNATIONAL MEDICAL CONGRESS which meets in London the 2nd of August will discuss in the *Section on Mental Diseases*, the following subjects: *The method of preparation of nervous tissue*.—The morbid appearances caused by methods of preparation.—The microscopic structure of special parts of the brain.—The cerebral localization of symptoms in mental diseases, especially hallucinations.—Hypnotism.—Idiotism and histological and morphological characteristics.—The relation between insanity and gout, renal disease, exophthalmic goitre and other diseases of the brain.—*Folie a double forme*.—Influence of diseases incident to insanity.—Insanity caused by toxic agents.—The employment of baths, narcotics, chloral, opium, alcohol.—New remedies and their uses.—The insanity of aphasia, the civil and criminal relations of the insane and their care.

AMERICAN MEDICAL ASSOCIATION.—The thirty-second annual session will be held in Richmond, Va., on Tuesday, Wednesday, Thursday and Friday, May 3, 4, 5, 6, 1881, commencing on Tuesday at 11 A. M.

THE ASSOCIATION OF AMERICAN MEDICAL EDITORS will meet in Richmond, Virginia, Monday evening, May 2, 1881.

THE THIRTY-SIXTH ANNUAL MEETING of the Association of Medical Superintendents of American Institutions for the Insane will be held at the ROSSIN HOUSE, in the city of Toronto, Ontario, commencing at 10 o'clock A. M., on Tuesday, June 14, 1881.

#### JOURNALISTIC NOTES.

"WALSH'S RETROSPECT" comes out this year in new dress, and is, in every respect, greatly improved except in the size of the type. It is fast becoming a very faithful reflex of American medical literature.

THE *American Journal of Medical Sciences* shows its appreciation of neurology, which is destined soon to become the chief study of practical medicine, by giving, as its leading article, an interesting clinical paper with colored illustrations in antero-lateral sclerosis, by Dr. Andrew Flemming, of Pittsburgh, Penn. At this writing, none of the other American medical quarterlies for 1881 are received.

FOLLOWING in the walk of the ALIENIST AND NEUROLOGIST, the *Anatomical Annals*, of Brooklyn, N. Y., joins us in seeking to inaugurate the dawning new era in medical journalism, by announcing itself "not so much a journal for specialists as a special journal for all practitioners."

Its contributions to neural anatomy alone, by Dalton, L. C. Gray Skene and Sequin, during the past year have earned for this estimable journal a worthy place on the table of every student of neurological science.

THE *Philadelphia Medical and Surgical Reporter* exhibits its usual appreciation of the manifest destiny of medical thought to run into neurological channels by many practical excerpts of this character which it periodically lays before its large circle of readers.

GAILLARD has revived the *American Medical Bi-Monthly*, but it will never be as much read (red) as the monthly until its covers are changed.

THE *Rocky Mountain Medical Review*, No. 6, Vol. 1, is the only number of this neatly appearing monthly journal of scientific medicine and general science that has reached us. It is published at Colorado Springs, Col., by Drs. J. Wellington Adams, editor, and J. C. Goodspeed, assistant editor; and so far as we can judge from a single number, it promises to be a first-class medical journal. The number before us has a good table of interesting contents, and an efficient corps of collaborators and correspondents. We wish it abundant success. The section in which it is published needs, and should well sustain such a journal.

THE *Illustrated Quarterly Journal of Medical Polytechnic*, published by Dr. G. Beck, compiler of the *Therapeutic Almanac*, is a good mirror of the mechanical advance being made in medicine. All the new instruments and appliances of the day are illustrated and described in its pages. An English reprint would be a success.

THE *Kansas Medical Index*, under the able editorial management of Dr. C. H. Dickman, improves as it grows older, and promises to become one of the brightest of the many bright western medical periodicals.

THE *International Journal of Medicine and Surgery*, like *The Anatomical and Surgical Annals*, occupies a distinctive field in American medical and surgical literature. It aims to present complete and faithful translations of the best literature contained in the various foreign medical and surgical publications, without elimination or abridgement. Its editors are: B. Newton, M. D., N. Senn, M. D., A. Rose, M. D., H. A. Bunker, M. D., C. H. Ten Eyck, M. D. Publication office: No. 1 Chambers Street, New York; p. o. box 1497. Terms: annual subscription, \$5.00; single number, 10 cents. There is a place in American medical journalism for such a journal, and we especially commend it to all who wish to have the cream of foreign surgery translated.

THE *Medical Bulletin* is a Philadelphia monthly journal of medicine and surgery; edited by John V. Shoemaker, A. M., M. D. Its contents are always interesting; its college gossip being an especial feature which commends it to the graduates of the Philadelphia schools. Terms: yearly subscription, \$1.00. Published at 1031 Walnut Street, Philadelphia.

THE ANNALS OF ANATOMY AND SURGERY for April will contain: I.—“The Surgical Anatomy of the Anterior Median Region of the Neck with especial reference to the Operation of Tracheotomy” (profusely illustrated); by Dr. L. S. Pilcher, of Brooklyn. II.—“Tubeless Tracheotomy;” by Dr. H. A. Martin, of Boston. III.—“Tubeless Tracheotomy;” by Prof. A. C. Post, of New York. IV.—“Early Tracheotomy in Brooklyn;” by Prof. D. Ayres, of Brooklyn. V.—“Tracheotomy in the Gulf States;” by Dr. W. M. Mastin, of Mobile. VI.—“Tracheotomy in Illinois;” by Dr. H. Z. Gill, of Jacksonville, Illinois. VII.—“Eucharius Rhodion” (concluded); by G. J. Fisher. VIII.—Editorial: “The Cautey in Tracheotomy;” by Dr. Fowler. IX.—The Clinic: “Cases of Tracheotomy.”

THE *Annals Medico-psychologiques*, the *Journal of Mental Sciences*, *Brain* and other foreign periodicals are entitled to and shall yet receive more attention than we have thus far given them in our pages. We regard them along with *L'Archive de Neurologie* and the other excellent European quarterlies heretofore named in our memorandum of exchanges, as indispensable to the faithful student of psychiatry and neurology.

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#### IN MEMORIAM.

DR. O. C. OLIVER, special pathologist of the Northern Hospital for the Insane, at Elgin, Ills. died December 24, 1880. He had been engaged at the institution since August, 1879, and when we saw him, a few months before his death, in his pathological laboratory, he zealously unfolded his plans and enthusiastic hopes for the future; detailing the work he had mapped out and showing us some that he had already executed. We were expecting something for our pages from his hand when the sad news of his unexpected death reached us.

Dr. Oliver was an unassuming, painstaking student of histology, well qualified by home and foreign study for the work he had undertaken, and, had he lived long enough to carry out the aims he had in view, would have achieved for himself and the hospital at Elgin, an enviable and enduring fame.

## ❖NOTES FROM THE HOSPITALS.❖

ILLINOIS, Jacksonville.—Number of patients under treatment, 1,026. Discharged 393, as follows: recovered, 131; improved, 117; unimproved, 37; eloped, 10; died, 88.

Dr. Carriell refers to the treatment of insane epileptics with the ordinary insane as undesirable, and suggests the propriety of treatment in institutions especially erected and furnished for this class of patients. The pernicious influence of treating insane convicts and criminals in the general hospitals for the insane is properly commented upon, and, separate provision recommended.

NEBRASKA, Lincoln.—Number of patients under treatment, 274. Discharged, 83, as follows: recovered, 44; improved, 11; unimproved, 7; not insane, 4; died, 15.

This hospital, in its present condition, is reported to have been erected at an average cost of \$840.00 per patient, which is cheap, since they appear to be provided with many modern improvements, are supplied with good heating apparatus, and the institution is lighted with gas.

MASSACHUSETTS, Taunton.—Number of patients under treatment, 749. Discharged 193, as follows: recovered, 49; much improved, 12; improved, 52; unimproved, 34, and died, 46.

We quote Dr. Brown's views of recoveries, etc.:

"It is evident that a person may have several attacks of insanity in which the disease may spring up *de novo* each time; but in a given case it may be difficult to decide whether the disease is a relapse, recurrent, or a fresh attack, as was the case with a woman discharged from this hospital a few months ago, apparently recovered from her third attack, the last seizure having come on suddenly from the loss of sleep, and other disturbing influences. The husband of the woman, who is a man above the average in intelligence, reported, when questioned carefully, that his wife seemed to him entirely well during the eighteen months she was at home, previous to the last attack, and that he could not see in her any loss of mental power, or change whatever. That her brain was more susceptible to disease than though she had never been insane, all will admit; but had she recovered from the preceding attack, or was the disease only slumbering, and sure to return sooner or later without any exciting cause except a tendency to repeat itself? That is the question which, in this and all similar cases, seems to me not easy to answer, but I cannot help thinking that one does not depart far from the truth or analogy from other diseases in calling them recoveries."

The probationary method of discharging is well spoken of in this report for the reason that in many cases the stimulus of home association is just what is required to complete the mental restoration. The proper time during convalescence to recommend the discharge of the patient from hospital treatment is thought to be rather difficult to decide upon, but too early a trial is preferred to a too prolonged and possibly an injudicious detention.

COLORADO, Pueblo.—The Legislature of Colorado has made an appropriation for constructing a central building and two new wings, to be added to the present nucleus of an asylum for the insane in Colorado.

PENNSYLVANIA, Dixmont.—Number of patients under treatment, 847. Discharged, 249, as follows: recovered, 60; improved, 58; unimproved, 79; not insane, 1; died, 51.

In this report the care of the indigent insane is discussed at length, Dr. Reed, in well chosen terms, condemns the method of maintaining the insane poor in county and township almshouses, and has caused to be printed in his report, extracts from letters and addresses upon the subject of prominent persons in the State, and several philanthropists well known throughout the country. We recommend this report to the reader.

PENNSYLVANIA, Harrisburg.—Total number under treatment during year, 547. Number discharge during year, 214, as follows: recovered, 28; improved, 49; stationary, 104; died, 33.

The trustees make a full report, and leave but little for Dr. Curwen to do other than to furnish the statistics.

During the past year the trustees elected Margaret A. Cleaves, M. D., Superintendent of the female wards of this hospital.

OHIO, Cleveland.—Total number under treatment during year, 819. Number discharged during year, 199, as follows: recovered, 88; improved, 33; unimproved, 46; died, 32.

This report exhausts without tiring the reader, the subject of asylum and the cottage or Gheel system of treating the insane; the conclusions are giving in the following quotation:

"That there is pressing need for more ample accommodations for the chronic insane and a class of demented patients, in many portions of our own country, and even, in some of the asylum districts, of our own States, there can be no question. But spare us from the Gheel method, which was originally founded in superstition, and which to-day amounts to little else than the blighted relic of an *effete* civilization. \*

\* \* \* \* \* It should be our aim to surround people thus afflicted, with all the conditions that will best enable us to study, observe, care for and treat them to the best advantage. As the matter stands to-day, there can be no question but what the asylum method of caring for and treating the insane is incomparably superior to any other; that the scientific data, which have been accumulated in relation to insanity, have been chiefly furnished by the researches of those engaged in asylums, and that these institutions, in view of what they have done and what they are doing, are among the very noblest expressions of an advanced civilization."

Employing the insane also receives attention. The difficulties encountered and the methods prevailing in this country are compared with those of other countries, particularly England and Scotland. For percentage employed, see report.

The closing remarks on administration is worthy of reprint. It is as follows:

"Those who have other motives than a determination to render an acceptable service and a disposition to be useful, and who are not willing

to sink self for the benefit of others, or cultivate a love for the work, had better seek some other avocation in life, than a position in an insane asylum."

CONNECTICUT, Middletown.—Number of patients under treatment, 654. Discharged, 126, as follows: recovered, 30; improved, 129; unimproved, 37; died, 30.

The detached building or cottage plan of providing for the insane has received attention from the hands and pen of Dr. Shew for ten years. Patients have been treated at Middletown in two open cottages, with but little or no more restraint in the way of locks and window guards, than are used upon similar buildings occupied by sane persons.

At the time of writing report, a building situated on an adjoining farm, which has been rented by the institution, was being fitted up for the accommodation of thirty male patients. Recently, a farm house situated one-half mile from the hospital, has been remodeled and furnished for the accommodation and care of twenty female patients transferred from the main hospital building; but to use Dr. Shew's language: "To reason from this that all patients could be thus cared for, would be illogical.

\* \* \* If all insane persons were of this class, and had homes, the State would not be called upon to provide for them. Unfortunately, a majority of insane persons are more or less turbulent and unmanageable at home; hence, they require the restriction of liberty which a hospital affords. Their own welfare demands it as well as the claims of society. The wise provision which is here made for their security, permits a much larger amount of personal liberty than could be allowed at home."

The subject of re-trait is referred to in the following language: "Mechanical restraint is used at this institution only by direction of the physician, to prevent serious accidents."

"A record of the name, cause and duration is carefully kept. The record shows that less than one per cent. are, in any way, restrained or secluded. Periods of weeks pass without the necessity for using any restraining apparatus, and then, perhaps, we will have half a dozen patients all at one time who require it."

A NEW HOSPITAL IN A NEW FIELD.—The legislature of the State of Connecticut has recently passed an act of incorporation for the *Women's National Hospital*, an institution designed only for the medical care and treatment of inebriate woman and opium eaters. It is a charitable association, and will be managed by a board of leading physicians, of which Dr. J. Marion Sims, of New York, is President. It is proposed to erect a building accommodating three hundred patients, every tenth one to be free, and all the rooms and accommodations to be graded to meet the necessities of all classes. The buildings will be located in Connecticut, near Long Island Sound, and will be built of granite and combine all the comforts of a home with the advantages of a first-class hospital. The institution will be purely national in its character: its Board of Managers at present represent ten different States. A large amount of money is already subscribed for the building, and work will be commenced in the early Spring. This is the first hospital ever projected for women of this class, and its



success is very promising because it is in the hands of practical men. The rapid increase of the use of opium and alcohol among women, demands a special hospital for this purpose, and it is expected that this pioneer effort will be followed by others in different parts of the country. Dr. T. D. Crothers, of Hartford, Conn., is Secretary.

DR. THEODORE W. FISHER (Harvard University Medical School, Boston), has been unanimously chosen superintendent of the Boston Lunatic Hospital, to fill the vacancy caused by Dr. Clement A. Walker's resignation.

DR. CLEMENT A. WALKER, after almost thirty years of unbroken service at the Boston Lunatic Hospital, has, by reason of failing health and strength, resigned his position as superintendent.

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## ❧BIBLIOGRAPHICAL❧

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**THE CARE OF THE CHRONIC INSANE.**—In a paper read before the New England Psychological Society, and published in the *Archives of Medicine*, Dr. H. P. Stearns discusses the problem of how to care for the harmless chronic insane, in the most judicious, humane and, at the same time, economical manner. After a few prefatory remarks, setting forth the peculiarities in habit, conduct and disposition of these persons, he presents and discusses three modes of caring for them, viz:

1.—“In the private homes of farmers and others in the several towns and counties of the State.”

2.—“In homes or asylums specially constructed for, and adapted to the use and care of such a class of persons.”

3.—“In the asylums for the insane, where many of them are at the present time.”

Regarding the first of these proposals, Dr. Stearns says:

“The plan of placing patients in single houses about the country, is examined somewhat in detail, both in regard to its advantages and disadvantages, because of its being thought by many to be a practicable solution of the difficulty.”

The two principal advantages urged in favor of such a plan are:

1. “It provides for as many additional patients of a more urgent class as may be removed from asylums where they now are, of the chronic class.

2. It also provides for the removal of a number of patients from the somewhat routine life incident to asylums to the more home-like and natural mode of *family life*. It is also thought they may be to a considerable extent associated with the members of the family, be entrusted with a large degree of liberty, and be employed in the usual avocations of those with whom they may be placed. It is thought there can be found among the farming and rural population a considerable number of

"farmers and others" who will be willing to receive and care for those even of the "sub-acute" class of the insane, where they can be treated by some country physician, and live safely and even "happily," their condition being reported from time to time to the General Board of Lunacy Commissioners; that such disposition of patients by their friends would be vastly more in consonance with their sympathies and feelings than placing them in asylums, whose gloomy halls and corridors they think they can see, and whose locks they imagine they can hear grating.

Now, as preliminary to considering any disadvantages attendant on such a plan, it may be remarked that there does not now, nor, so far as I know, has there ever existed any obstacle, public or private, to making such disposition of insane patients, except such as may be inherent in the nature of the case. There certainly exists no law compelling persons to send their insane relatives and friends to an asylum. They can care for them in their own homes; they can hire their neighbors to care for them, or they can remove them to distant towns and villages, and hire them cared for there, so far as any *law* of the state is concerned; or they may at any time remove their friends from asylums and have them thus cared for, thus avoiding the dread and suffering supposed to be incident to having them in an asylum; but, as the case actually stands to-day, this is not done, and the vast majority of those who are able to support their insane relatives have them in asylums.

Such being the case, the plan of *boarding out* patients must relate to that class who neither can pay for their own support, or be paid for by friends.

Now, one of the first objections to such a plan of caring for the above class of the insane which suggests itself, is that it practically does away with any efficient system of daily or weekly visits and inspection. Such a system, carefully followed up by persons duly qualified by education and free from selfish interest, is believed to be absolutely essential to their well-being and human care. This would be essential even in the case of persons in good health, unless they should be provided with the requisite means of defending themselves against the many forms of injustice which might be brought to bear upon them through the selfish interests of those under whose care they might be placed. How much more would it be the case with persons all of whom are affected with some form of illness, which renders them helpless; persons demented, depressed, or unnaturally excited!

If it is found difficult in many cases to secure kind and judicious treatment of such persons in asylums, with the many means for this purpose at hand, how much more in as many homes as there are persons scattered about the country! If it is found necessary to have close observation and very frequent inspection when they are cared for by persons who have been educated and trained for this purpose, and who understand that the peculiarities and oftentimes obstinacy on the part of patients are due to the presence of disease, how much more will it be the case when they are among people who have little or no qualifications for their care, and whose interests may lead them to misjudge conditions which may be present.

Another objection would lie in the difficulty of finding suitable homes for them at such cost as the State will pay.

In England and Scotland, these patients, who are all of the humblest class, are placed with those in like position in the general population, and who live in a very primitive manner. They are poor, and greatly need any addition they can obtain to their usual income.

In this country, farmers and others with whom any persons could be placed are in a much higher position and have a much larger yearly income. Their time is more valuable, because wages are higher, and, as a rule, they are their own employers. Such labor as could be had from one or two chronic insane persons would be of comparatively little value, indeed, would not make it worth while to be at the necessary trouble of obtaining it. They would, therefore, in many cases, be left to themselves to wander the country, with all the results of such liberty attending, or else be confined in the house. Indeed, under almost any circumstances, they must be neglected at times, as the compensation would be insufficient to pay for supervision.

This objection to the plan would, however, be removed, if it can be demonstrated that the better class of persons will receive and care for such patients; but when we consider how extremely reluctant the larger number of these persons are to have their own relatives, so affected, at home; how unwilling they are to be burdened and hampered with the responsibility of their care; and, indeed, how ready they are to make great effort, and sacrifice much, that they may be able to pay others for this duty rather than do it themselves. We may surmise that it will not be easy to find those who, with the requisite qualifications, and without any tie of blood, would be willing to undertake the charge.

It is not, however, intended to assert that persons cannot be found who will be more than willing to undertake this kind of occupation for the remuneration it would furnish, but it would be safe to assert that they would be such as would be without responsibility or qualifications for the charge.

The second plan, mentioned above, viz.: Placing them in homes or asylums specially constructed for, and adapted to, the care and use of such persons, he says: is free from the principal objection urged against the first plan—a lack of *inspection*. This provides for daily and, if need be, hourly inspection by persons educated and trained for the purpose. The amount of labor to be required of any one would be decided by the physician in charge.

They could be easily and frequently visited by those duly authorized by the State for that purpose, and their general condition and care determined.

Such homes or annexes could be built near to the state asylums, so that persons becoming excited or depressed, can be readily transferred to them during these periods, and receive the necessary care with little inconvenience.

But, it is objected, that by such a method of caring for large numbers of the chronic insane, they will be deprived of their liberty in a larger

degree than is necessary. Now, as this is a serious matter, and may apply with equal force to the care of all classes of the insane when considerable numbers are in one home, it may be well to consider it somewhat carefully.

There is a vast difference between liberty for the sane and insane. To the one it means freedom to care for himself and family; to labor daily for their support and comfort; freedom to do the most he can as a citizen for his neighborhood and his country; freedom to acquire property and make provision, as best he may, for the dark days of sickness and old age; freedom to participate in the election of those who may exercise authority in state and national councils; freedom in the pursuit of happiness for self and family; freedom in the worship of God. "No tint of words can spot thy snowy mantle, or chymic power turn any sceptre into iron; with thee to smile upon him as he eats his crust, the swain is happier than his monarch from whose court thou art exiled."

But liberty for the demented, the excited, the depressed, the deluded, the weak in body and mind, the odd and singular in general conduct, signifies something vastly different from this—indeed, quite the opposite. Liberty in this case means the wandering about the country, according to one's own sweet will; the sleeping in barns or under haystacks in the fields; the dressing in grotesque and fantastic styles; the being hooted and jeered at by thoughtless boys; working or not as one may choose; the being sought after at night, and exposure to wet and cold. It signifies an aimless and objectless kind of life; the doing as one may please without much reference to the consequences; the going hither and thither, a restless and uneasy desire and effort for one knows not what. Unrestricted liberty means this, if it means anything, for the insane. Few insane persons of the class under consideration are anxious for the kind of liberty sane persons desire and glory in, but simply the liberty of license; and it seems to me important to recognize this distinction in our desire to do all that may actually be for their highest good and happiness.

The truth is, and we all must recognize it, that these persons must have supervision in one form or another. All supervision implies restriction, and all restriction means deprivation of the liberty desired.

Disease, in all forms, restricts personal liberty, and often is a tyrant especially with the insane. Therefore, in our care for them it should be one of our aims to make the burden as light as possible, to grant all reasonable requests, to give all reasonable liberty with necessary restrictions.

But, again, it is claimed that life, in any kind of asylums and with considerable numbers, is *routine, monotonous, and unhomelike*.

Well, the same may be said to be true with regard to boarding-houses and hotels. There is the same general round of daily meals, the gathering in the reading-rooms, the smoking-rooms and the vestibules; the same routine of work, and not unfrequently hard work. In fact, life is routine for the vast majority of people, especially the poor, everywhere.

Still, people, many of them, prefer to live in boarding houses and hotels rather than in private homes. The truth is, however, that life in such an asylum would be vastly more varied and attended with much more in the way of amusement, interest and diversion than is possible with the

vast majority of people who, in the same station of life, live and labor in their own homes; and certainly vastly more than would be the case if they were farmed out singly in the homes of country laborers, and required to conform to their habits and modes of living. It would be a mistake to suppose that because some of these persons are restless, uneasy and unhappy, they would be less so under other circumstances. They would be unhappy anywhere and under any regulations of life, because they are not in health.

It may be proper here to add a word in reference to the arrangement and construction of such asylums as these now under consideration.

Buildings for the care of such persons could be located in the vicinity of state institutions and on a large plat of ground especially adapted for farming purposes. They should be provided with shops and work-houses for the occupation of such patients as have been accustomed to mechanical pursuits.

The buildings may be under one roof, and arranged with day and night rooms, with amusement and smoking rooms, and rooms for games; or they could be detached houses connected to the central and administrative building by means of covered corridors. One or two farm-houses, sufficient for families of eight or ten persons, could be located on the border of the grounds, and be in charge of a farmer and his wife.

It is believed that life under such a plan and conditions would be no more irksome or routine than life in hotels or in one's own home; that it could be made remunerative to a considerable extent; that it could be free from many of the restraints that appear to be necessary for the acute and some of the chronic insane."

In reference to the third plan, viz.: that now in use in our asylums, he says: "It provides for oversight and frequent inspection; it provides for the care of the many by the few, and it provides for their economic care by those who are above personal bias. In all these respects it would appear better than the first plan examined.

It is however, thought by some to be objectionable in its general effects.

1st. It tends to crowd our asylum capacities, and thus keep many of the more acute and curable cases from receiving treatment in them.

2d. This class of patients occupy room in asylums built especially for the care and treatment of the curable class, and, therefore, at a considerably larger outlay than would be deemed necessary for the chronic incurable class.

3d. By being associated with the acute or curable class, and at the same time deemed and treated as incurables, the class of chronic insane under consideration *may* become in time somewhat neglected.

There may be some difference of opinion as to how important the above considerations may be, but I am inclined to the opinion that they are well taken. I think buildings and equipments for the kind, judicious and economic care of the class of persons now under consideration, can be built at a considerable less expense than may be requisite or desirable for the curable class; and when we take into consideration the large number

of these persons which is every year added to our asylums population, and how large that number must become in the no distant future; when we consider the millions of money already expended in some of the states, and the additional ones soon to be called for if the present style and cost are to be continued, the importance of this consideration becomes more apparent.

I am inclined to the view that a larger amount of happiness and productive industry can be obtained, a greater degree of liberty in personal movements may be had, when in homes built and conducted with special reference to their peculiarities and requirements.

In the treatment of the subject as above, it is not claimed that there may not be individual cases of the insane who could be properly cared for in private homes. It is not claimed that there may not be persons who could and would take care of these individuals cases.

But the subject has been considered in relation to such numbers as would be of importance in relation to the state, and thus become a matter of public interest."

This is a temperate and judicious statement of the subject, and Dr. Stearn's views are not impracticable. The only questions are, what insane ought to be separated from the acute and whether buildings in which to domicile the chronic cases built contiguous to hospitals for acute and curable persons would be less expensive than if they were detached. We think they would not, if enduringly constructed.

The essential point which Dr. S. keeps constantly in view is one which cannot be lost sight of in any just, wise provision for any class of the insane, viz.: that they are not to be abandoned to non-medical care, or placed in situations where they will be bereft of that protecting oversight which medical men understand far better than all others how to bestow. The paper proposes some conservative extensions of existing methods which is entitle to the thoughtful consideration of all who are really interested in the greatest welfare of the greatest number of the insane.

MEDICAL DIAGNOSIS\* is to the practical physician what knowledge of landmarks is to the traveler—indispensable to intelligent progress. The age in which we live is one of specialization of effort—of "division of labor." The best minds in medicine are conserving their energies and expending them, more effectually than formerly, in restrictive, rather than diffuse treatises. This work of Dr. DaCosta, has been too long before the profession to now require extended criticism—its reputation is established.

The book before us is the the fifth edition, and its pages throughout sustain the well earned fame of the author, as a safe guide in the diagnosis of those diseases usually encountered by the busy general practitioner.

\*MEDICAL DIAGNOSIS with special reference to practical medicine. A guide to the knowledge and discriminator of diseases. By J. M. DaCosta, M. D., Prof. of Practical and Clinical Medicine, at Jefferson Medical Col., Philadelphia, etc. J. B. Lippincott & Co., Publishers, Philadelphia, 1881.—5th Ed.

The author displays a correct appreciation of the importance of neurology in giving the diagnosis of the diseases of the nervous system the first place in the book, and in re-writing the chapters on this subject, and on the blood diseases. We might, from a purely neurological standpoint, indicate some omissions, but these have probably been deemed unavoidable by the author in order to get within reasonable compass of other matters more important for those for whom the work is especially designed, namely: "Advanced students and young graduates in medicine." "A book on diagnosis of an essentially practical character, to those members of the profession who are about to enter upon their practical duties." To such, the book will certainly prove of great service and more advanced practitioners may read it with profit.

"ANÆMIA IN INFANCY AND CHILDHOOD"\* is an interesting and instructive monograph-reprint of twenty-seven pages, from the *Archives of Medicine*, for February, by Dr. A. Jacobi, of New York, exhibiting a sufficient amount of research and observation to justify its production, and, consequently, to render its perusal profitable to the practicing physician who may be so fortunate as to see it, and read it through, which is more than can be truthfully said of many of the monograph abstracts to which the attention of physicians are now daily called.

The semiological, pathological and therapeutical considerations of the paper are practical and judicious. The preponderant vulnerability of infancy and early childhood to morbid influences from without, than the more advanced in years, is satisfactorily confirmed from anatomical and physiological, as well as clinical standpoints of observation. Their greater susceptibility to succumb to the adverse influences arising within the system is likewise shown from physiological experimentation and other proofs.

The significance of tardy dentition, of epistaxis, vascular murmurs, latent malarial poisoning, and the (so called) growing pains (generally rheumatic) do not escape the author's notice. Likewise important peculiarities in connection with rickets, scrofula, the structure of the colon in infants, the calibre of their arteries, their brain weights, etc. Not enough is said on the important subject of heredity, yet Dr. Jacobi does not omit to enjoin artificial feeding where the mother or wet nurse has rickets, syphilis, serious nervous disease, or intense anemia.

THE ASYLUMS OF EUROPE† are possessed of many excellent features, both in their construction and management. The author is an ardent advocate for the introduction of the English system of governmental inspection and non-restraint (so called) into the *hospitals* for the insane of this country.

Dr. B. is a fluent writer, especially known to the readers of this Journal, in connection with the *development* of the subject of neurasthenia. Matters psychiatric are now engaging much of his attention and thought, and it would afford us great pleasure should Dr. Beard visit and write upon the

\*Read before the Medical Society of the County of New York.

†By Geo. M. Beard, A. M., M. D. Reprint from the *Boston Medical and Surgical Journal*, December, 1880

merits and demerits of the hospitals for the insane of America as he has written upon what he regards as the merits of the asylums of Europe. We think he would find much to commend in them, and be fully as favorably impressed with the American as with the European system of caring for the insane, as shown in many of the hospitals of the United States which we might name.

Non-coercive restraint is, or ought to be, the *rule* in all well-regulated insane hospitals (to call them *asylums* is to misname them), the exceptions being more or less numerous according to the character of the hospital population, chronic dements being mainly harmless, while acute maniacs require more or less restraint. Absolute non-restraint being far more generally practicable in an *asylum* for mere detention than in a *hospital* for the treatment of the insane.

As "for forms of government," however, "let fools contest. What'er is best administered is best."

The constant official meddlesomeness of government inspection, which Dr. B. wishes to introduce into this country, looks like too much of a good thing. Our English cousins get along with it, however, just as they do with a form of State government which we have no desire to substitute for our own. We think it quite as possible to well-organize and manage hospitals for the insane on the American as on the European plan, and we do not see any more reason for creating a set of official spies for medical than for other State officials.

APHORISMS IN THE TREATMENT OF FRACTURE\* are as essential as rules of action in other departments of surgery, and the surgeon takes to them as the logician does to axioms; in fact, aphorisms in surgery are the axiomatic truths of the science and art, pithily expressed. These briefly expressed landmarks of Dr. Cowling, are mainly in accord with the testimony of experience, and constitute an excellent *vade mecum* on the subject treated; and if implicitly followed by the young surgeon, will generally lead to good results.

As an addendum to Aph. 79, we propose:—*And the hand should always be prone.* To Aph. 83:—*If little violence is done besides fracture of the olecranon, flex; extension should be preserved until the union is complete. If such violence has been done as to insure inflammation of the joint, a fixed rectangular position should be maintained.* To Aph. 84:—Fractures of the lower third should be treated with rectangular splints, and should cap fractures in the upper two-thirds by the shoulder cap and splints extending to the olecranon and bound to the splint with the forearm in a sling. To Aph. 93:—The only displacement in fracture of the pelvis due to muscular action has been that in which a part of the anterior portion of the ilium has been drawn downward by the sartorius and the tensor vaginæ femoris. Flexion of the thigh is the best treatment.

If the author anywhere in this little book makes reference to that disease among the insane, *osteomalacia*, which entails a peculiar proneness

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\*By R. O. Cowling, A. M., M. D., Prof. of Prin. and Prac. of Surgery, University of Louisville, Ky.



to fracture from exceedingly slight external violence, it has escaped our attention. A few practical aphorisms on this subject might not be out of place; some valuable data for which could be gleaned from an interesting and instructive paper on "*Molites Ossium*," read before the British Medical Association at Cork, last August, by Dr. Ringrose Atkins, Medical Superintendent of the District Lunatic Asylum at Waterford, and reviewed at length in the January number of this Journal.

RUMBOLD'S HYGIENE AND TREATMENT OF CATARRH is a duodecimo volume, with forty-six original illustrations, including the authors own hinge laryngeal reflector, the tubular extension laryngeal forceps (the only one extant) and spray producers for the larynx, fauces, nasal and pharyngo-nasal cavities.

The theory and practice of the work is founded on the belief that catarrhal inflammation can only be successfully treated by measures that tend to prevent the recurrence of the cause of the complaint; by methods that cause no irritation, while thoroughly cleansing the parts; and by remedies that have a soothing effect on the inflamed mucous membrane, and is the product of over twenty years of continuous labor, observation and study by the author.

Dr. Rumbold has gone out of the beaten track with respect to the method of making local applications, and thinks that the prevailing dissatisfaction with present methods will lead to an examination, by the profession, of those he recommends. A cursory examination of this book, will show how widely the author differs from other authorities on the subject of catarrh and its treatment. He claims that this divergence from the beaten path, is the result of an honest search after facts, which facts he has simply stated as he saw them, not fearing to question the correctness of long acknowledged theories.

The author eschews the probang and the brush, relegates the Eustachean Catheter to a place among the useless implements of the past, and throws a lance at the practice of the laryngologists, in regard to topical laryngeal medication, which they probably will successfully parry.

Among the anatomical and physiological novel features of the book is the attention called to the prominence on the back part of the soft palate, which he names the *azygos* prominence, the continuous entrance of air through the Eustachean tube and its absorption by the mucous membrane of the middle ear and mastoid cells.

The author also maintains that the uvula prevents the velum palati from vibrating during phonation.

The book before us is a useful practical work, on a practical subject, from a competent practical source; and as such, without entering into further detail of its other meritorious features, we commend it to all interested in the hygiene and treatment of catarrh.

# IN MEMORIAM.

DR. ISAAC RAY.

As the last day of last month passed away, the life of our dear old friend departed.

A hasty professional visit calling us near Philadelphia afforded us the melancholy pleasure of seeing him in his last affliction. We found him reclining in a rocker, which had been placed close to the front window of his bed room, where he might look out on the street and enjoy the bright, invigorating sun that shone on the morning of the 15th of March. He talked to us, as was always his wont whenever we met, on psychiatric matters. His pulse was strong, and, upon our remarking the fact, he said, "I am seventy-four, and have finished my work." He was then clear-headed, calm and not at all depressed in spirits at the prospect of having to depart. For the last twenty-five years he had had a bronchial trouble; but he said at this last meeting, that he had never submitted to a physical examination, not caring to know the extent of his disease. There was some slight atheromatous degeneration apparent in the radial arteries, which may have been more extensive at the heart.

The sudden death of Dr. Ray's only son, Lincoln, a promising practicing physician of Philadelphia unexpectedly cut off in his prime, about a year ago, had much to do, we think, in hastening the father's death; for, at the time of the sad event, Dr. Ray wrote us, "my son is dead and I am crushed and wilted." He bore it with fortitude, but his trained heart could not long survive so great a shock and strain. It was evident to all who intimately knew Dr. Ray, that great affection and large hopes were centered upon his lost son.

His friendship was warm, especially to young men. Though younger physicians, in his presence, felt the superiority of his intellect and the greatness of his acquisitions, they were not made to feel, by any act of his, their disparity of years. We acknowledge ourselves much indebted to Dr. Ray for wise counsel freely given, and for painstaking acts earlier in our own career, disinterestedly performed on his part, that cost him no little labor—acts which only the good and kind of heart could have done.

He has, indeed, completed a good work. In the jurisprudence of insanity alone, he has constructed a work which will last for ages, an imperishable monument to his indefatigable industry and well-earned fame. His "Contributions to Mental Pathology" will likewise last long in the courts of this country, at least.

The acquaintance of the profession of the United States with Dr. Fielding Blandford's excellent practical work on "Insanity and its Treatment," is mainly owing to Dr. Ray's having introduced it to the public with a summary of the laws in force in the United States relative to the confinement of the insane.

Whatever Dr. Ray wrote was terse, logical and didactic, and his many monographs were always read, by thoughtful physicians, with avidity and pleasure. One of his latest papers appearing in this JOURNAL, on "Recoveries from Mental Diseases," was the recipient of the highest compliments from the highest home and foreign sources.

Lawyers, when he talked on testamentary capacity and forensic medicine, listened to him with that profound respect for his opinions which they are accustomed to pay to the utterances of the most learned judges of their highest courts. Before legal tribunals, in all matters pertaining to insanity, he was an expert without a peer and to his own profession he was a Corypheus in psychiatry, whose right to leadership, while he lived, none dared to dispute.

Dr. Ray was born in Beverly, Mass., and graduated at Bowdoin College and Harvard University. He was practicing medicine at Eastport, Maine, when called to the superintendency of the Hospital for the Insane, at Augusta; thence, in a few years thereafter, he was called to take charge of the Butler Hospital, at Providence, R. I., at the head of which he remained for twenty years, visiting in the meantime and making himself familiar with the hospitals of Europe. He resigned the superintendency of the Butler Hospital on account of failing health, and went to live in Philadelphia, where he remained to the day of his death.

His skill and experience in psychological medicine, his ripe and sound judgment in all that concerns the insane, caused his counsel to be largely sought after as a safe and judicious expert and consultant in psychiatry. What respite he gained from professional labor was assiduously spent in literary work, as his many contributions to alienistic literature abundantly attest.

To his faithful relations, who were by him when he breathed his last, we tender the sympathetic condolence of an absent friend. A great and good man has departed, but he has left behind a good work, fairly finished for his time, and a fragrant memory embalmed in the hearts of many warm friends and conferees.

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#### DR. RICHARD O. COWLING.

As we go to press, also, the death of Dr. Richard O. Cowling, one of the brightest and best of Kentucky's many noble sons, is announced. He was a skillful surgeon, well-esteemed in Louisville and throughout Kentucky for his professional ability and personal virtues, and especially known to the editorial fraternity in connection with that excellent medical weekly, the *Louisville Medical News*, which he conducted and founded.

He died suddenly on the 2d of April, of rheumatic pericarditis, in the prime of a most vigorous, hopeful and promising manhood, at the early age of forty-two years. He was Professor of the Theory and Practice of Surgery, in the University Medical College, at the time of his death, a post of no small honor for one of his years. His sun has set while it was yet day, and the light that has departed with him will be missed and mourned for many a day to come, in the city of his work, now ended forever.

## PUBLICATIONS RECEIVED.

Syphilitic Neurosis. By W. R. Gowers, M. D., Assistant Professor Clinical Medicine, University College. London.—The Stretching of Nerves in Tabes Dorsalis. By Prof. C. Westphal. Reprint from the *Berlin Clinical Weekly*, Number 8, 1881.—The Question of Localization of the Unilateral Convolutions and Hemipia Relating to Brain Diseases. Same author. Reprint from the *Charite Annals*, Vol. 6.—The Physiological Anatomy of the Spinal Cord and the Motor Tracts of the Cerebrum. By Landon Carter Gray, M. D., Lecturer on Diseases of the Nervous System. Long Island College Hospital, etc., Brooklyn, N. Y.

The Objective Points in the Treatment of Phthisis. By Wm. Porter, A. M., M. D. of St. Louis.—Remarks on Syphilis. By Walter Coles, M. D., St. Louis. Reprinted from the Transactions of the St. Louis Medical Society in *St. Louis Medical and Surgical Journal*, January, 1881.—Extensive Scalding from Prolonged Exposure to Steam at High Temperature. By Norman H. Chapman, M. D., Associate Member of the Biological and Microscopical Section of the Academy of Natural Sciences. Extracted from the *American Journal of the Medical Sciences* for January, 1881.—Insanity: Its Treatment and Prevention. The Presidential Address of the Border Counties Branch of the British Medical Association. By J. A. Campbell, M. D., F. R. S., Edin., Medical Superintendent of the Cumberland and Westmorland Asylum. Read at Carlisle, June 25th, 1880, and reprinted from *Lancet* of August 28th and September 4th, 1880.—Remarks on Abdominal Surgery; Cysts of Broad Ligament. Laparotomy. Recovery. By F. J. Lutz, A. M., M. D. Reprinted from the Transactions of the Missouri State Medical Society, 1880.—Staton's Gastrostomy. Extract from *North Carolina Medical Journal*, October, 1880.—Surgical Treatment of Naso-Pharyngeal Catarrh. By D. H. Goodwillie, M. D., D. D. S., New York City. Read before the American Medical Association. Reprinted from the *Medical Gazette*, July 31st, 1880.—Medical Science in Conflict with Materialism. By Eugene Grissom, M. D., LL. D. Address delivered before the Medical Society of North Carolina, May 13th, 1880.—Medical Ultraisms. By G. M. B. Maughes, M. D., St. Louis, the President's Annual Address, St. Louis Medical Society.

The Dangers Incident to the Slightest Uterine Manipulations and Operations. By Geo. J. Engelmann, M. D., St. Louis, Mo. Reprint from Transactions Missouri State Medical Society.—On the Use of Sulphur and its Compounds in diseases of the Skin. By L. Duncan Bulkley, A. M., M. D., Attending Physician for Skin and Venereal Diseases at the Out-Patient Department of the New York Hospital; Reprinted from *Archives of Dermatology*, July, 1880.—On the Management of Infantile Eczema.

Same author. Reprinted from Transactions of the Medical Society of the State of New York for 1880.—The State of Prisons and of Child-Saving Institutions in the Civilized World. By E. C. Wines, D. D., LL. D., Honorary President of the International Penitentiary Congress of Stockholm. —The Symptoms of Sexual Exhaustion (Sexual Neurasthenia). By Geo. M. Beard, A. M., M. D., Fellow of the New York Academy of Medicine, etc. Reprinted from the *Independent Practitioner*, May and June, 1880. —What Constitutes Discovery in Science. Same author.—A Reply to Criticisms on the "Problems of Insanity," with Remarks on the Gosling Case. Same author.—Electricity in Medicine and Surgery, with cases to illustrate. By John J. Cadwell, M. D., Baltimore, Md.—The Treatment of the Genito-Urinary Organs, the use of Electricity, Damiana, Etc., Etc. Same author.—What Can be Done for Our Imbeciles? By I. D. Thompson, M. D., Physician to the Mount Hope Retreat, Baltimore, Md. Reprint from Transactions of the Medical and Chirurgical Faculty of Maryland, 1880.—Hospitals and Asylums for the Insane: Shall we Distinguish Between Them and Provide for the latter at Less Expense? By Henry W. Lord.—Cases with Hydrophobic Symptoms. By Drs. Collins, Mills and Seiler. Reprint from the *Philadelphia Medical Times*, July 31, 1880.—Report of Dr. F. Norton Manning, Inspector-General of the Insane for New South Wales, and a large number of other reports, etc., some of which will be noted hereafter.



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ORIGINAL CONTRIBUTIONS AND PREFERRED TRANSLATIONS.

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**Article I.--On the So-Called Tendon-Reflexes\***

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By W. R. GOWERS, M. D., R. C. P., London.

THE phenomena which are commonly designated "tendon reflexes" are of great practical importance and it is necessary to describe their characters and nature in some detail.†

We will first consider the well-known jerk of the leg which occurs when the patellar tendon is tapped. It has been called the "knee phenomenon" by Westphal, the "patellar tendon-reflex" by Erb. The latter designation has come into general use, although, as we shall presently see, it is an undesirable term. We may, therefore, speak of it either by the somewhat portentous designation proposed by Westphal, or by the simpler descriptive term, "knee-jerk." It is not a little curious that this knee-jerk, which has for generations amused schoolboys, should have become an important clinical symptom.

To obtain the jerk, the knee must be flexed so that the quadriceps femoris is gently extended, and the leg must be free to move. If then the patellar tendon is struck, the quadriceps contracts and jerks the leg forward.

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\*From the forthcoming second edition of *Diagnosis of Diseases of the Spinal Cord*.

†First systematically studied by Erb and Westphal, but previously partially recognized and employed in diagnosis by Charcot.

The most convenient position is with the knee to be tested flexed nearly, but not quite, at a right angle. The posture commonly employed is with the leg to be tested across the other, the knee of the supporting leg being at a right angle. But if the leg to be tested is stout, its tension in this position may be too great to permit of any movement. In such case the best posture is for the observer to place his arm beneath the patient's thigh, just above the knee, and rest his hand upon the patient's other knee. Not long ago I saw a rather stout man, well known to many members of our profession, who was uneasy because a physiological friend had been unable to produce the phenomenon upon him. His legs were so stout that, in the posture commonly employed, no movement occurred when the patellar tendon was struck. But when the thigh rested on the observer's arm, in the way I have described, the tap on the tendon caused a ready jerk, much to the satisfaction of the individual examined, whose anticipations of impending locomotor ataxy were thus removed. Children may sit on the edge of a chair, adults on the edge of a table; but if so, and the legs are vertical, the effect of the blow and of the muscular contraction must be carefully distinguished. The side of the extended hand is a convenient instrument for giving the blow. Now and then, when very slight, a percussion hammer or a stethoscope with an india-rubber edge to the ear-piece,\* elicits it more readily, especially in cases in which the space between the patella and tibia is too small to permit of a suitable blow with the hand. It may commonly be obtained as readily through one or two garments as upon the skin. If its existence is doubtful, however, the skin should be bared. In many cases the movement may be obtained in a downward blow upon the patella, by a blow on the quadriceps tendon above the patella, or by a blow on the substance of the muscle, almost as readily and strongly as by a blow on the patellar tendon. In cases in which

\* Such stethoscopes were formerly in use for percussion of the chest, and can be obtained of most instrument makers.



it is in great pathological excess, it may even be excited by a blow on the tibia.

When it is in excess, I have found that the same phenomenon may be conveniently brought out in a somewhat different way. As the patient lies in bed, the finger of one hand is placed across the quadriceps tendon just *above* the patella, and the patella pushed down, so as to make the quadriceps tense. The finger is then percussed in the direction in which the patella is being pushed, so as, suddenly, to increase the tension in the muscle. The blow is instantly followed by a contraction, jerking the patella and the finger upwards. Very often this single contraction is immediately succeeded by a second, and this by a third, and so on—a series of quick, clonic contractions, recurring as frequently as eight per second. By grasping the patella firmly, and suddenly pushing it downwards, so as to make the muscle tense, this clonus may also be set up, as Erb has shown. It may continue as long as tension is kept up, but instantly ceases when the muscle is relaxed.

The next important phenomenon belonging to this group occurs at the ankle-joint. If the calf-muscles, which are connected with the Achilles tendon are made tense, and this tendon is tapped, the muscles contract, causing a slight extension movement of the foot; just as the muscles in the thigh contract when the patellar tendon is struck. In cases in which these phenomena are excessive,—just as sudden tension in the thigh-muscles will cause a contraction, followed by others in a continuous series—so, in such cases, if the calf muscles which extend the ankle-joint, are suddenly put on the stretch by pressing the hand against the sole of the foot, a quick contraction occurs, instantly ceasing; but if the pressure is kept up, instantly renewed, and recurring as long as the tension is maintained, as a clonic series of spasmodic contractions—the “ankle-clonus,” or “foot-clonus” (or “foot phenomenon”—Westphal). It can often be obtained best when the knee is not completely extended. The movement is

very uniform, from six to ten contractions occurring per second. By attaching a writing point to the foot, and making it trace a line on a revolving cylinder of blackened paper, I have obtained tracings which are almost as regular as the tracings of a tuning fork. The foot-clonus can be much more frequently obtained, and is of much greater practical importance, than the clonus in the extensors of the knee, but the two have the same time and are evidently of the same nature.

What is the nature of these phenomena? When a tendon is tapped, and its muscle contracts, the occurrence has somewhat the aspect of a reflex action. It was assumed by Erb that the contraction is a true reflex action, the stimulus being the excitation of nerves in the tendon. Hence, it has been termed "tendon-reflex." This view has received apparent confirmation by the discovery of certain facts: (1) That there are nerves in tendon.\* (2) That these phenomena depend for their occurrence on the integrity of the reflex path to, through, and from the spinal cord, and are arrested by a lesion in this path. By experiments on animals (in whom similar contractions may be obtained), it has been found that they are prevented by division of the nerves to the muscles, by division of either the anterior or posterior roots of the spinal nerves, or by destruction of the spinal cord.† The knee-jerk cannot be obtained in locomotor ataxy (damage to the posterior nerve roots), or in infantile paralysis (damage to the gray matter, the reflex center). (3) That these phenomena are in excess in some cases, in which the reflex action of the skin is in excess.

These facts certainly seem to prove that some reflex influence is concerned in the production of the phenomena. But (as Westphal has always maintained) they do not necessarily prove that the contractions depend on a simple reflex action from the tendons. A little consideration of the facts which I have already described, will show that

\* It does not need the microscope to demonstrate this, as any one may ascertain who will take the trouble to give his Achilles tendon a sharp pinch.

† See Tschirjew, *Archiv. fuer Psychiatria*, Bd. VIII., H. 2, ft. 3.

there is a good deal which cannot be very well explained by the "tendon-reflex" theory. There is the great fact that passive tension is necessary for the tap on the tendon to be effective, and that, when the phenomena are in excess, sudden tension alone will suffice to develop the contraction. But tension acts upon the muscle as well as upon the tendon, and frequently the contraction may be distinctly excited by stimuli which act on the muscle, and have no action on the tendon. For instance, in cases in which these phenomena are in excess, if the foot be gently pressed up so as to make the calf-muscles tense, and the muscles on the front of the leg be tapped, the calf-muscles contract, just as they do when, under the same circumstances, the tendon is tapped, and cause a brief extension movement of the foot. I have termed this the "front-tap contraction." It is a very delicate test of increased irritability, and it is also of considerable theoretical interest, since we have in it a contraction developed by a stimulus which does not in any way effect the tendon. It can effect the gastrocnemius directly, for, by placing the hand on the calf, the vibration may be felt through the leg. If the tibia, instead of the muscle, is tapped, the contraction is much slighter, or does not occur.

Moreover, a tap on the tendon itself only excites the contraction when it increases the tension of the tendon; *i.e.*, when it acts upon the muscle also. In the case of the Achilles tendon, this may be easily demonstrated with a little care. A gentle tap on the side of the tendon will excite the contraction as readily as a tap on the back of the tendon, but, if the other edge of the tendon is supported (as by the fingers of an assistant), the same tap will no longer be effective, because it no longer increases the tension.

The strongest proof, however, of the independence of the phenomena on any stimulation of the tendon is afforded by the experiments of Tschirjew, who divided, carefully, all the nerves to the patellar tendon, and still found that the tap upon it made the tense muscle contract.

Thus the evidence seems conclusive that the contractions are not excited by stimulation of the nerves of the tendon, but that the stimulus originates in the muscle, the tendon being only, so to speak, an instrument by which that stimulation is produced.

But, if the muscle is stimulated and then contracts, is not the contraction excited locally, as Westphal has, from the first, urged? A reflex action takes a certain time, which is needed for the stimulus to travel to and from the cord, and for the reflex process to occur in the center. According to received physiological data, an interval of at least one-fifteenth of a second would be needed for the knee-jerk, if it were a reflex process, and rather more for the movement at the ankle. I have found that when the Achilles tendon, or the front of the leg, is tapped, the resulting contraction occurs in about one-thirtieth of a second.\* The interval for the knee-jerk has been found to be about one-twenty-fifth or one-thirtieth of a second.† If the patella is pressed down and tapped, in the way I have just described, I have found that the interval between the tap and the resulting contraction is often not more than one-fortieth of a second. The shortness of the interval makes it difficult to believe that these contractions can be reflex, and supports the theory that they are excited locally.

But to this view, that the contractions are excited locally, is apparently opposed the fact that they are prevented by whatever lesion arrests reflex action. Some have endeavored to explain the discrepancy by the suggestion that reflex action may occur in a much shorter time than is commonly supposed. This suggestion is not, at present, justified by any known facts. Another and, I think, much more probable explanation is this: If we

\* *Med. - Chir. Trans.* 1879, p. 292. The measurement has been since confirmed by Waller, *Brain*, July, 1889.

† .039 sec. Burckhardt; .032-- .034 sec. Tschirjew; .04 sec. Brissaud; .03-- .04 sec. Waller. Some measurements which I made of the interval (*Med. - Chir. Trans.*, 1879, p. 275) gave a longer interval, probably in consequence of the movement of the foot being taken as the indication of the commencing contraction. "Load" will increase greatly the period of latent stimulation, probably by causing the initial contraction to expend itself on the elasticity of the muscles. The measurements given above were obtained by recording the commencing contraction of the muscle.

regard the contractions as local, we have still to account for the irritability which permits the local stimulus to cause a contraction. This irritability is developed by passive tension. If the muscle is relaxed, the fibres may contract if they are struck directly, just as do the fibres of a separated frog's muscle, but no contraction can be produced by striking the tendon. Hence, I have suggested that the tension excites, by a reflex influence, a state of extreme irritability to local stimulation—such as that of a tap on the tendon, or such as the vibration from a tap near the muscle, or from a tap on the bone to which the tendon is attached—which thus excites a visible contraction.\*

The explanation receives some confirmation from some very interesting observations of Tschirjew.† He has found that if the nerve to a separate muscle be divided, the muscle remains of just the same length. If, however, a weight be first attached to the muscle, when the nerve is divided, the muscle lengthens. This shows that the tension does excite a slight contraction, which is dependent on a central influence. It is in this condition only that the local stimulation is effective. If the tension put on a muscle is gentle and gradual, it may only develop the irritability, and an additional local stimulation is necessary to produce a visible contraction. If, however, the tension is sudden and forcible, it not only develops the irritability, but produces visible contraction in the muscle thus rendered irritable—as in setting up the foot clonus. I have shown‡ that the relaxation of the muscle, between the successive contractions, is not complete: there is a persistent residual contraction, *i.e.*, a tonic contraction on which the clonic contractions occur. When one clonic contraction is over, the tension continuing, a second is instantly developed.

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\* This explanation was originally given for the "foot phenomenon" alone (*Med.-Chir Trans*, 1879, p. 295). I now think that it is equally applicable to the knee-jerk. The evidence of the identity in nature of the two is very forcibly stated by Waller (*loc. cit.*).

† *Reichert und Du Bois Reymond's Archiv.*, 1879.

‡ *Loc. cit.* p. 286.

The sensory nerves of muscles have been shown by Tschirjew to commence, not within the muscular fibrils, but in the interstitial connective tissue, the afferent impulse, produced by tension, is apparently due to the tension acting on these nerves; the visible contraction is excited by tension or vibration affecting the muscular fibres themselves. The latter is ineffective unless the muscles are brought into a state of special excitability through the cord. Of the reality of an afferent impulse from the muscle, produced by tension, you may easily convince yourselves, if you will allow your ankle to be suddenly flexed. A distinct pain is felt in the muscle (none, be it observed, in the tendon). It is not surprising, therefore, that this afferent impulse should, very often, not merely develop the reflex excitability or tonic contraction, but also cause a more widely-spread reflex action. The attempt to get the foot-clonus, for instance, will cause a flexion of the hip-joint; the attempt to get the knee-jerk may cause a movement in the opposite leg or a start back of the body. But these reflex actions, if carefully observed, confirm the theory which has been put forward in the preceding pages, for they distinctly succeed, at an appreciable interval, the local contraction. If, for instance, in a patient now under my care, I depress the patella so as to make tense the quadriceps, and then tap the depressing finger, the tap is followed, after an interval too short to be recognized, by a contraction in the muscle, and, after a very distinct interval (which I have found to be about three times as long as the other), by a contraction in the opposite leg. So, too, Burckhardt has found that the latent interval for a skin-reflex is three times as great as for the knee-jerk. I think that this theory of reflex irritability, and local stimulation affords a full explanation of all the relations of these phenomena to the central nervous system, and it is the only theory which adequately explains them.

It seems, therefore, most desirable to discard the term "tendon-reflex" altogether. The phenomena are, according

to the explanations above given, dependent on a "muscle-reflex" irritability, which has nothing to do with the tendons. If we wish to describe them by a general term, it will be best to employ one which does not involve any special theory of their nature. They may be termed "tendon-muscular phenomena," but the interventions of tendons is not necessary for their production; the one condition which all have in common is that passive tension is essential for their occurrence, and they may more accurately be termed *myotatic* contractions (*τατισμοί*, extended).<sup>\*</sup> The irritability on which they depend, is due to and demonstrative of a muscle-reflex action which depends on the spinal cord.

A true "tendon-reflex" may be excited by pinching the tendon, but this is a start of the whole limb, precisely such as results from a pinch of the skin.

A clonus quite similar to that just described can be sometimes obtained in the peronei (a lateral foot clonus), and also in the plantar muscles of the great toe—in each case by passive tension. All have nearly the same time—about eight per second.

It is of interest to note that modern physiologists know nothing of muscular "tone," except as developed by tension, and that, as Tschirjew and Westphal have pointed out, when these contractions cannot be obtained (as in ataxy or disease of the gray matter of the cord), muscular tone is often conspicuously deficient.

The excess of these myotatic contractions is especially related to degeneration in the lateral columns of the cord (pyramidal tracts). It is seen in extreme degree, for instance, in lesions of the cord higher up, which cause descending degeneration in those columns. It is seen also in cases of hemiplegia with similar descending degeneration on the paralyzed side. It is uncertain whether it occurs merely from the loss of cerebral influence. It does not usually occur immediately, but after a week or ten

<sup>\*</sup> If it should ultimately be proved (which is very improbable) that so short an interval as one-fortieth of a second is sufficient for a reflex action, and that each contraction is reflex, the term "myotatic" will still be accurate, since it will remain true that tension is essential for the production of these contractions.

days, *i.e.*, after sufficient time has elapsed to allow commencing degenerative changes to descend the cord and reach the neighborhood of the gray matter concerned in the "muscle-reflex" process, where the effect of the degeneration is apparently to cause a permanent diminution of resistance. I have, however, once seen the foot-clonus as early as forty-eight hours after the onset of hemiplegia.\*

Although in health a slight excess of myotatic irritability may exist, sufficient in some cases even to permit the front-tap contraction to be obtained, it is exceedingly doubtful whether, in health, a distinct foot-clonus can ever be obtained by simple passive flexion of the foot. I believe that a persistent clonus, so obtained, is always pathological; certainly indicative of a nutritive change in the spinal cord. In most cases it indicates a structural alteration in the lateral columns.†

The diagnostic importance of this symptom can hardly be over estimated, in cases in which it occurs, the nutrition and sensibility in the legs are often unimpaired, and the weakness in the legs is likely to be regarded as "functional," or, in a woman, as "hysterical." I have seen many such cases thought to be hysterical, in which it needed but a touch on the sole of the foot to excite such a clonus as is absolute proof of the existence of organic disease.‡

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\* Westphal has recorded a case in which it was obtained immediately after an attack of apoplexy, but it was possibly due to an earlier lesion.

† It is not yet known whether the change (diminished resistance) in the muscle reflex centers, which usually follows, and indicates degeneration in the lateral columns, may arise *de novo* in these centers, by an alteration in their nutrition. At present, there is no pathological evidence of this.

‡ The only apparent exception to the rule is the fact, pointed out by Westphal, that it may rarely be obtained in cases of chronic rheumatic joint-affection. But, in all such cases which I have seen, there has been other evidence that the joint-affection has been accompanied by secondary changes in the spinal cord.

It has been said that the foot-clonus may be sometimes obtained in pure hysterical paraplegia. But, apart from hysteria, there is the strongest clinical evidence to show that the clonus always indicates structural changes in the cord, and I believe that the explanation of its occurrence in alleged hysterical paraplegia is that slight organic changes exist in the cord in these cases, which have determined the direction which the hysterical symptoms have taken. Cases of pure hysterical paraplegia are often seen in which there is not a trace of excess in the myotatic contractions.

Dr Hughlings Jackson has lately pointed out that an excess of myotatic irritability sometimes exists for a few minutes after epileptiform convulsions, and he ascribes it to temporary exhaustion of the lateral columns of the cord. After some severe fits, however, no knee-jerk may be obtainable (Westphal). This loss, which I found in one case to last only half a minute, may be due to the spinal gray matter being also "exhausted" for a short time, in some cases.

It is necessary to remember that, in cases of structural disease, the clonus is not obtainable at all times with equal readiness.



But although, thus produced, the phenomena are pathological, we may get evidence of the same kind of muscular action, in health, in another way. If a rythmical contraction can be set up voluntarily, and gentle tension in the gastrocnemius maintained, as by sitting on the edge of a chair with the ball of the foot resting on the ground, the contractions will go on involuntarily—a normal foot-clonus, which has precisely the same time (about six per second) as the morbid clonus. It is evidently the same phenomenon, the difference being that it cannot, in health, be excited by passive tension. For *this* to be effective, a morbid reflex irritability is needful, such as only exist in disease. In morbid states, in which the myotatic irritability is excessive, the posture I have just described excites the clonus very readily; and the jerking legs of paraplegics as they sit must be familiar to you. In attempting to walk, also, the tension on the calf-muscles has the same effect, and the patient may be jerked violently by the spasm.

It is probable that this reflex relation between tension and contractility of muscles is of the highest importance in their associated action, and that the reason why, in certain muscles, as those of the calf, these phenomena are more readily observed, is because in these, in the act of walking, at every step contraction succeeds tension, and so the reflex relation between the two has attained a higher degree of development. It is rare to get a distinct clonus in a child who has never walked, even in the pathological condition in which, in adults, it would certainly be obtained.

Similar myotatic contractions may be obtained in the arm. A tap on the extensor tendon, above the olecranon, will cause a contraction in the triceps. When they are in excess, a tap on the bone to which the tendon is attached will cause a contraction in the muscle. Thus, a tap on the radius will cause a contraction in the biceps, slightly flexing the elbow; a tap on the ulna will produce contraction in the triceps, or in the forearm muscles connected with the bone, just as a tap on the tibia, in similar

conditions, will cause the knee-jerk. A clonus may even sometimes be obtained in the biceps, or flexors of the fingers, by sudden tension, quite similar in time and character to the ankle-clonus. In many of these cases these contractions can be obtained without any other passive tension than is involved in the posture of the arm. In hemiplegia, the increased muscular tension which is involved in the condition of rigidity seems to suffice for permitting their occurrence.

The myotatic irritability is lost in diseases which separate the muscle from the spinal cord (as a lesion of the nerve), the disease of the posterior roots (such as exists in posterior sclerosis), in disease of the anterior roots (as in chronic meningitis compressing the nerve-roots), and in disease of the gray matter at the level from which the nerves for the muscle proceed (as in infantile paralysis and allied diseases). It is also lost in diphtheric paralysis (in which there is probably an affection of the gray matter) pseudo-hypertrophic paralysis (probably by reason of the disease in the interstitial tissue of the muscle in which the afferent nerves begin).

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## Art. II.—The Nature, Pathology and Treatment of Chorea (St. Vitus' Dance).

By EDWARD C. MANN, M. D.,

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CHOREA is a disease of the nervous system, of a convulsive nature, belonging principally to early life, and characterized by irregular and spasmodic movement of the voluntary muscles. These movements take place against the will of the patient, and are usually more marked on one side of the body than on the other. They soon become general, however, and are increased by the patient's attempting to exercise his will, or by emotional excitement. The disease generally begins very gradually, and is not noticed for some time.

Chorea has a very intimate connection with acute rheumatism and cardiac diseases, and many choreic patients will be found to present, upon examination, either an irregular action of the heart, an anæmic movement at the base of the heart, or evidence of endocarditis, pericarditis, or both.

Rheumatism, therefore, and more especially rheumatism complicated with pericarditis or endocarditis, may be regarded as one of the most prominent causes of chorea. Among other causes that may be mentioned, ranks foremost, sudden fright. Anxiety, overwork and ill health are also predisposing causes.

There is more or less paralysis in chorea, which is indicated by loss of facial expression, loss of speech, loss of the power of swallowing, dragging of the limbs, inability to hold out the arm without its falling, the readiness with which patients become tired, and the soft, flaccid state of their muscles. Some degree of paralysis is, indeed, quite a marked feature in chorea.

A child affected with chorea has a dull, listless expression; avoids associating with other children; does not evince the customary interests in his games and amusements, and becomes incapable of learning his lessons correctly, or recollecting with any degree of accuracy. There is an apparent mental deficiency, and there is more or less emotional disturbance, excessive timidity, capriciousness and fretfulness.

The child becomes restless and fidgety, and ungracefulness of movement becomes very conspicuous.

He does not sit still long in one place, but is constantly changing his position. He stumbles in going about, or up or down stairs; cannot hold or pass dishes at the table, and generally knocks whatever he holds against something else. The choreic movements generally begin on one side—either of the face, or else one hand and arm are affected. These movements soon involve the whole of one side, and, after a few days or weeks, extend to the other side, involving the whole body. If the attack comes on during an attack of rheumatism, no prodromal symptoms may be seen; or, if the attack is induced by sudden emotion, the onset is sudden. The convulsions of chorea are very peculiar, and effect to a greater or less extent the whole body, and are of a disorderly, not of a rhythmic, nature. They consist of sudden impulsive movements. They are clonic spasms which are not stopped until sleep comes. The speech is usually thick and confused, but not lost. When the patient endeavors to answer questions, the convulsive movements of the face and mouth become much worse, and he finds it difficult to articulate. The words come out with a peculiar drawl or stammer. This difficulty of speech may depend upon the respiratory muscles and larynx being affected, as well as upon the convulsive action of the lips and tongue. As a result of the respiratory muscles being involved the breath is often drawn through the larynx with a suddenness that produces a strange grunting noise. The convulsive action of the muscles of the head and neck are as irregular as those of the

face; so that the head is jerked from one side to the other. The convulsive movements of the upper extremity are more striking than those of the lower. The shoulders are hitched; the arms are moved to and from the side; the fore-arm is pronated, supinated and flexed, and all sorts of grotesque movements executed. It is very difficult for the patient to hold a glass or cup of liquid to the lips, and the glass is carried in all directions before it reaches its intended destination. The legs are affected like the arms, and as soon as the patient tries to use them their action becomes very jerky and uncontrollable. The body is twitched about very violently into odd and eccentric attitudes. In the worst cases the features, head and neck are in continual motion; the body is doubled up and writhed around in strange contortions, and the patient's condition is very pitiable to see. The vacant imbecile aspect of the patient increases as the disease continues, and depends very much upon the involvement of the muscles of expression. Functional or organic disease of the different organs of the body may supervene in the course of an attack of chorea. The leapings and dancings of the religious enthusiasts, as the "jumpers" and the "convulsionaires," should properly be classed in the category of choreic affections. The people who, in Scotland, were affected with the jumping ague, who were affected with convulsions and dancing fits, also come under this head.

PROGNOSIS.—The prognosis is in the majority of cases favorable. The general length of time for an attack is from four or six weeks to three or four months. In a small minority of cases the disease lasts for many years, or even a life-time. In the few fatal cases the convulsive paroxysms become aggravated and the spasms are incessant. The patient dies of exhaustion. The majority of recoveries are thorough and complete. The patient recovers his mental and physical health, although occasionally the implicated muscles remain feeble, and atrophy or contract.

**PATHOLOGY.**—Several hypotheses respecting the morbid anatomy and pathology of chorea have been advanced by different observers of more or less ability. One which originated with Dr. Kirkes and which has since been supported by Dr. Hughlings Jackson, adopts the theory of embolism. Dr. Kirkes did not indicate what part of the nervous system he considered to be the seat of the disease, but said that he considered chorea to be “the result of irritation produced in the nerve-centers by fine molecular particles of fibrin, which are set free from an inflamed endocardium and washed by the blood into the cavities of these centers.”

Dr. Hughlings Jackson adopting and enlarging on the theory of Dr. Kirkes endeavors to show the emboli are lodged in the vessels of the nerve-tissue forming the convolutions near the corpus striatum, the blood supply of which is derived from the middle cerebral artery, and that a condition of defective nutrition was induced from a diminished supply of blood. Dr. Radcliffe accepts Dr. Hughlings Jackson so far as clinical evidence can be adduced, and says: “Taking chorea of one side of the body, hemichorea, as the simplest form of chorea, and putting it side by side with hemiplegia, the result of embolism, good reason is found for believing that the disorder of movement and the palsy, both point to the region of the corpus striatum as the seat of mischief. If this be the seat of mischief in hemiplegia, why not in hemichorea? The muscles moved in hemichorea are those most palsied in hemiplegia. In hemichorea as in hemiplegia the arm as a rule is more affected than the leg. In right hemichorea as in right hemiplegia, the speech is generally very much affected. Again, hemichorea is always more or less mixed up with and sometimes ends in hemiplegia; and on the other hand, hemiplegia, from various causes, is not unfrequently attended by chorea or movements of some kind or other. The fact that the face is involved in chorea, shows that the seat of the disorder must be above the spinal cord.

The facts which have been instanced point to the convolutions near the corpus striatum rather than in any other part of the brain, as the part affected." Dr. Broadbent also accepts the theory of embolism, and considers that embolism of the fine vessels of the sensori-motor ganglia is the principal cause of chorea.

*It does not seem to the writer that the pathological facts, which have been elicited by morbid anatomy, justify the theory that chorea is produced by, or is dependent on, inflammatory processes in the brain or cord.*

Tremor, convulsion and spasm *do not* necessarily depend upon inflammation, but may depend much more readily upon irritation of the nerve centers, and this irritability may, I think, exist just as well in the thalami-optici, corpora-quadrigemina, pons Varolii, in the medulla or the spinal cord, as in the corpora striata.

The appearances in the nervous system after death of embolism as a cause of chorea, and the morbid appearances being located in the sensori-motor ganglia, are too few to support this theory successfully, and morbid appearances which are discovered *do* show that *all* parts of the nervous system *may* become affected in the course of chorea. The cord is very often found affected, particularly the posterior columns, *almost enough* to suggest a relationship between this disease and locomotor ataxy. Inflammation *cannot* be essential to chorea, for in some cases there are no traces of inflammation.

The most reasonable theory regarding the production of chorea seems to the writer to be that it primarily proceeds from a morbid irritability of the nervous centers, and that, in the subsequent cause of the disease, any or all parts of the nervous centers may become involved in an inflammatory process, but not necessarily so. In many cases there is an inherited irritability of the nervous system, which is easily proved by inquiring into the family history of the patient.

Dr. Radcliffe himself says that in the more aggravated cases of chorea there is a tendency to run into one or

other of the inflammatory diseases of the brain and spinal cord. The general unilateral tendency of chorea, which, so far as it goes, is acknowledged by the writer to point toward disease of the cruri cerebri, corpus striatum, or cerebral hemisphere, is offset by the involvement of the muscles of the eyeballs, and of the muscles supplied by the upper portions of the facial nerves, which, as a rule, are not involved in organic lesions of this part. The tendency of chorea to implicate the whole body and to implicate the muscles of deglutition and respiration is also adverse to this hypothesis, and, as I have said, the general resemblance in many points of the convulsive movements to those of locomotor ataxy point to a lesion in the posterior columns of the cord. The objection to this would be, however, that if the cord were affected the disease would not manifest a unilateral tendency.

Another very decided objection to the theory of embolism is the fact of the absence of the disordered movements during sleep. If embolism was present, owing to plugging up of minute cerebral arteries, the lesion would be a constant one, and, if this was the cause of the convulsive movements, there could be no remission; neither could they abruptly cease, as I have seen them, under treatment. Another objection is that chorea is much more frequent in girls than boys, while rheumatism, which, by inducing vegetation upon the valves of the heart, is adduced to be the cause, is most frequent in males. Again, the embolic theory entirely fails to explain those cases, which are due to fright or anxiety when the heart is perfectly sound.

The symptoms of chorea are undoubtedly connected with a morbid irritability of the cerebral convolutions—the ganglia at the base of the brain, the pons, the medulla and the spinal cord. While admitting that chorea is generally associated with rheumatism—in a large proportion of cases with cardiac disease—we maintain that chorea depends upon hyperæmia of the nerve centers, which is produced by the rheumatic condition or



by mental or reflex nervous, irritability or irritation. There is a general tendency to dilation of the smaller vessels, and these arterial dilations are attended with exudation into the tissues immediately surrounding them, and the sclerosis which is thus induced in the tissues surrounding the vessels explains the wasting of the muscles, rigidity of the limbs and permanent paralysis when it supervenes upon chorea.

TREATMENT.—There are few diseases of the nervous system so difficult to treat successfully as chorea, and few in which so many remedies have been employed. The old treatment of Sydenham, who employed bleeding and tartrate of antimony, has been virtually abandoned, although Sir Thomas Watson recommends local bleeding when there is a fixed pain in the head. He also uses iron as the favorite medicine in cases of chorea, and other English practitioners, Dr. Elliotson especially, report many cases of cure by this mode of treatment. It has appeared to me that the good accruing from the use of iron is that attained from improving the general health of the patient, and in this way, as iron is an important tonic, it undoubtedly does good, although I do not think it should be regarded as exerting any specific action in chorea. Sulphate of zinc in increasing doses, commencing with one grain three times a day, has been used. Strychnia has been employed, especially in France, where it was introduced as a remedy for chorea by Trousseau, who commenced with doses of 1-28 grain in children, gradually increasing it until the full physiological effects of strychnia were produced, maintaining them for a while. The iodide and bromide of potassium have been used, but without practical results. The various narcotics have been tried, but with no good results. In my own treatment of these cases I endeavor to give the nervous system *rest* and *nutrition*, obtaining the former by avoidance of excitement, early hours, and the calmative influence of warm baths at bed time. The latter by using phosphated cod-liver oil, or the oil in connection with phosphide of zinc, 1-10 grain in

pill three times a day. Gentle gymnastic exercises are very valuable and should by no means be neglected. My favorite remedy, and the one which seems to be the nearest to a specific in chorea is arsenic, which I use hypodermically. To Dr. C. B. Radcliffe, of England, belongs, I think, the credit of being the first to use arsenic in this manner. He first employed it in 1866, and he selected the most tender point over the contracting muscle. In the case he relates, he injected three minims of Fowler's solution, January 12th, in a patient who had suffered for nine years from distressing chorea. On March 21st, "the patient left the hospital almost well." The injections had reached m. xiv. per day, and marked improvement was noticed from the first. I use a mixture of equal parts of Fowler's solution and water to avoid any local irritation which I, at any time, find induced by the undiluted Fowler's solution.

By using even the pure Fowler's solution I have found the irritation very trifling, and it is rare, especially in children, to find any want of toleration of the drug in the system. Very rapid improvement generally takes place under this treatment from the first, and the patients gain flesh. I commence with three minims, and inject, subcutaneously, for a week, every other day, and, on the second week, increase the dose to five minims every other day, increasing two minims each week, and in from one to two months a cure is obtained. In recent cases, a month or six weeks will generally suffice, while, in old cases, sixty or seventy days may elapse before a cure is accomplished. In troublesome cases, I also use, as adjuvants, ether spray or ice bags to the spine, and electricity. By this method of using Fowler's solution, the gastric disturbances which are produced, when the medicine is given by the stomach are avoided, and the good effects which we can obtain are very much more rapid. I have been very much pleased with the results obtained, and should certainly advise this mode of treatment in chorea by all practitioners, believing that they will find it, as I have found it, most efficacious.

## Art. III.—The Stretching of Large Nerves in Tabes Dorsalis.

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By DR. A. ERLÉNMEYER, of Bendorf.

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(CONCLUDED.)

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Translated by DR. OTTO A. WALL, St. Louis,

PROF. OF CHEMISTRY IN THE MISSOURI MEDICAL COLLEGE, AND PROF. OF  
MATERIA MEDICA IN THE ST. LOUIS COLLEGE OF PHARMACY.

PETER R., *æt.* thirty-nine years, employé in a railroad office, is descended from a family which is not tainted, either from blood-relation or by acquired psychoneurotic disease. Very probably he had suffered, after an attack of measles at the age of two and a-half years, with acute poliomyelitis anterior, for he could already walk at the eruption of the measles, but lost this power again for several years afterwards. He was free from military service on account of weak lungs. Had hard chancre in 1866; was treated with pills of corrosive sublimate; no inunction-cure nor iodide of potassium. Afterward had frequent pollutions; married in 1868; had several strong and healthy children. None died, and no abortion. Never caught cold or became wet, nor had any fall upon the back. He dwells upon the fact, however, that he returned home several times from balls, during cold weather and free perspiration, without an overcoat. I attach importance to his being an employé in an office; as such, he was exposed in winter to being overheated, and this is, in my opinion, the *conditio sine qua non* of a so-called "cold." In 1871, severe rheumatism began to appear in repeated attacks; the joints were not enlarged; the pains were not continuous, but darting, and only in the legs. The stomach is said also to have been

occasionally deranged. Evidently, we have here the beginning of the tabes. In 1872, began a period of abuse of spirituous liquors, continuing for several years, during which the patient consumed about twenty seidels (a seidel is a measure holding a pint, and corresponds to our "schooners") of beer per day. During this time, the pains, which were considered to be rheumatism, increased in continuous progression. In July, 1878, the ataxia became apparent; in September, of the same year, the patient was already unable to walk without a cane. On the 3d of September, he obtained admission to the Evangelic Hospital, in Bonn. Here the galvanic current was applied. He was burned with the actual cautery along the sides of the vertebral column, and nitrate of silver was administered. In December, paralysis of the bladder ensued. He suffered much from headaches, radiating from the back of the neck upwards; there were no bulbar phenomena. Arms and hands remained free from pain. When discharged from Bonn, on the 25th of July, 1876, he could no longer walk nor stand. Until November, of that year, nothing was done for him. On the 7th of November, he presented himself before me for the first time.

PRESENT CONDITION.—A lean, pale man of medium height; swollen cervical and inguinal glands. Was brought in a vehicle, and carried into my room. Upon attempting to place him upon his feet, he sinks down helplessly. Well-marked ataxia of the legs, which were flung about wildly. The legs are cold, and show a very decided decrease of sensibility. Power of pressure (measured against my leg which I hold before him) very weak. There is no idea of consciousness in regard to the position of his legs. Reflex action of the patellar tendon extinguished on both sides. Pupils moderately dilated, do not act at all in response to light, though accommodating. On the left side, strabismus *div.* when sight is not fixed upon a particular object. Pains in the legs not usually present, though they generally come on

to a limited degree in moist weather. Urine discharged passively.

*Diagnosis:* Tabes dorsalis. *Prognosis:* Bad. *Therapeutics*—in consideration of the former syphilis: Inunction-cure, and iodide of potassium; in addition, galvanization.

During the winter of 1879-1880, the patient was anointed with 260 gm. (about 8 oz.) of ungt. hydrarg. cin.; he took 230 gm. (about 7 oz.) of iodide of potassium, and was treated almost daily with the galvanic current. In April, 1880, he thought he had increased sensation in the legs. The glandular enlargements had disappeared, nutrition was improved, but, otherwise, no improvement of any kind could be noticed. I now discontinued all therapeutic measures, and proposed to him the operation of nerve-stretching, to which proposition he agreed.

On the 22d of June, 1880, the operation of stretching the ischiadic nerve was performed by my friend, Dr. Ferdinand Timme, Surgeon of the hospital of the Evangelical Asylum, at St. Martin, in Coblenz, in this hospital. I deemed it best to stretch the nerve as centrally as possible, and chose the *incissura ischiadica* as the point of operation.

The patient was chloroformed, and the operation performed during spray of carbolic acid, the bandaging and after-treatment being strictly antiseptic. The incision through the skin was in the longitudinal axis of the leg, between trochanter and tuber ischii, and the separation of the muscular fibres with the fingers caused scarcely any bleeding. We found the nerve, without search, in the bottom of the incision; the sheath was slit open, and the nerve was taken on the finger by the aid of a sound. The nerve was flat, thin, and of a gray color; the coherence of the separate bundles was loosened. The nerve was drawn up slightly by the fingers, and then a complete twist was made, so that the nerve passed through the twist of a-half an 8; in this position it was left for a few minutes. As one may convince himself

readily by trial with a cord of corresponding thickness, such a procedure corresponds to a stretching of about 6 or 7 centimeters. The wound healed by first intention.

On the 3d of July, we performed stretching of the left ischiatic nerve in the corresponding place and same manner. The left nerve was round, of the thickness of a little finger, reddish, but the muscular tissue of the glutei, of this side, was more flaccid and not of the ordinary red color, but rather dirty red.

Before operating upon the left leg, we examined the right in presence of our colleague, Dr. Rügenberg. We found no change in regard to sensibility, ataxia or reflex action of the patellar tendon; on the other hand, we were able to demonstrate a very decided improvement of power in the leg, showing a decided contrast, in this regard, from the left leg. By placing his leg against mine, which I placed before him, while the patient was sitting, the left leg could scarcely support itself against mine, and, when this succeeded, exerted but a minimum pressure; the right, on the other hand, at once pressed itself closely against mine, and exerted such a pressure that I could not remain standing. Both of my colleagues proved the behavior of the two legs repeatedly on their own persons; we all were forced from our position by the pressure of his right leg. The attempt to make the patient stand, with our assistance, failed. During this attempt, the tossing motions of the right leg were as apparent as ever, while the ataxia of the right leg seemed to me to be diminished during the attempts of the patient to exert pressure in the sitting posture; the right leg could fix itself more easily against the opposing leg, while the left leg did not succeed on account of the ataxic motions. In spite of the fact that the second operation was performed with spray of carbolic acid, and during the application of sutures and dressing all antiseptic precautions were strictly observed, yet a fever occurred after a few days, which had its rise in an erysipelas of the wound, as became apparent on removal of the bandages.

This was probably caused by an impregnation of the bandage with feces. We had anticipated this danger to the near wound and dressings already in case of the first operation, and had provided the proper prevention by salicylic dressing; the second time we were not destined to be as fortunate as in the first operation. The patient suffered with febrile symptoms (in the evening to 40° C.); the erysipelas had also spread to the first, already cicatrized wound, causing the latter to open again partly. By the middle of August, both wounds were healed. An examination of the left leg, on August 16th, showed in this limb a similar increase of strength as we had already established in the right leg. The patient was now able to push from him a person standing before him, by pressure with the left leg, just as he had been able to do with the right leg since the stretching of the nerve.

Sensibility and patellar-reflex were both decreased and wanting, as before. In regard to ataxia, the result was the same as in the right leg; while the patient was in a sitting posture, the movements of the leg showed less tossing, but, on raising the patient, these movements occurred in an extreme degree, just as before the operation. Standing, without support, was impossible, though he could remain standing against a wall without further prop, when he had been placed there with the assistance of others, something which he could not do before; hence, also a proof of increased strength. The pains, never very severe, have disappeared entirely.

From this description of the disease, it is apparent that the expected result of the operation has not been achieved. All the symptoms of the disease remained, and only a partial, though certainly considerable increase of power in the legs could be perceived on either side after the stretching of the two corresponding ischiadic nerves. That the patient, when raised and placed against the wall, can stand without further support than that of leaning his back against the wall, is certainly a result of the operation, but not the intended result, since he should

recover the ability to walk by the removal of the ataxia.

In consequence that the latter persistently remains, the patient therefore being unable to prevent and neutralize disturbances of equilibrium, he does not realize the ability to stand as a success tending to ameliorate his existence.

What, now, may have been the causes that, in my case, the same effect was not produced which resulted in Langenbuch's and Esmarch's cases? To this question, two answers may be given. Either the cause of the unsuccessful result depended on the unfavorable process of healing, which, spite of all precautions, was complicated with high fever, or the cause is that the ischiadic nerves were stretched too little. I incline to the latter supposition as the only correct one, and for the following reasons: In the right leg, the ischiadic nerve of which was stretched first, and whose wound of the operation healed by first intention and without febrile symptoms, a very considerable improvement in strength was observed before the operation on the other leg, as detailed above; at that time the patient could not even remotely approach this performance with the left leg, which had not been operated on. This, and the fact that the patient could not exert any strong pressure with the right leg before the operation, furnish the proof that this increase in power was the result solely and alone of the stretching of the ischiadic nerve. Then the left leg was operated upon; erysipelas ensues, the cicatrix of the already healed first wound breaks open anew, the patient has fever for three weeks, the temperature rising to 40° C. Had this condition exerted any influence upon the failure of the operation, then the gained increase of power in the right leg should have disappeared, or, at least, been diminished after the cessation of the fever and the complete healing of the wounds, or there would have been no change in the left leg, and an increase in the power of pressure should not have occurred. Neither was the case; in the condition of the first leg, no change occurred, and in the second leg the power



of pressure increased considerably. My supposition that the nerves were not sufficiently stretched, or not strong or long enough, and that, with stronger and longer continued stretching a complete success might have been achieved, is, therefore, justified, because a favorable result was produced by the stretching, even though it was not the expected result, but an incomplete one. Had the stretching of the nerves had no effect on their innervation, then everything should have remained as before in regard to the exertion of strength, which depends, ignoring now the size of the muscles, which, of course, was not changed by the operation upon the innervation. But just because an improvement resulted in this regard, I believe I must ascribe the cause thereof to the nerve-stretching, and believe, furthermore, that we might have achieved more with stronger stretching. But, on the other hand, we did not have the courage to exert greater tension, especially in the first, thin, flattened, and apparently atrophied, ischiadic nerve, because we wished to avoid a tearing of it; and, on the other hand, I believed, in consequence of a communication which I had received from a very experienced source, that I had done enough when I twisted the nerve on my finger, thus describing a loop which was equal to a stretching of 6 or 7 centimeters. If I shall draw any conclusion from the above detailed and discussed clinical history, and from the quoted two works of Langenbuch and Esmarch, it is this, that we are justified, nay, it is our duty, to make further trials with stretching large nerve trunks in tabes dorsalis. This appears, from the complete success of these two cases, and the partial success of my own. At all events, I emphasize, that we must exert stronger and also longer continued tension than I did in my case.

It seems to me that, especially in regard to this last point, the surgeons should make a more careful investigation in order that we may have a safe guide how we should stretch. I know that experiments have been made upon cadavers by attaching weights to the nerves to

determine the supporting capacity of the nerves, but I am of the opinion that these results cannot be of service for the conditions existing in the living. Independent of all other supposable differences between the living, pathologically changed, and the dead nerve, the essential thing is not to know by what weight the nerve is torn—and this is what was mainly established by experiments on the dead body—but in the exact knowledge of the average weight with which a certain therapeutical effect may be produced. In all cases of nerve stretching, therefore, broad bands should be placed under the nerves and freighted with weights. The weight and the time of its action should then be published, together with the achieved result. Or, when stretching is produced by forcing loops, the length of the loop and the time during which it was held should be stated. In this manner, definite normal conditions would be established, in accordance with which we might proceed in any single case.

Whether it is advisable always to stretch in the *incissura ischiadica*, I would not wish to decide, on account of the proximity of the anus, and the danger of infection by the impregnation of the bandages with fecal matters, which it is so difficult to avoid. The operation *per se* is exceedingly simple and without danger in this place, but we must bear in mind the fact that the patient must lie on his abdomen or on his side, which is annoying and scarcely to be borne for a long time.

In regard to the best time for the operation, I would like to state, as my opinion, that we should preferably operate as soon as possible.

Whatever may be the seat of the disease, or however we may choose to explain the action of nerve-stretching, we certainly may expect, with better reason, the removal of pathological processes which are still in their incipency than those in which histological elements have already been destroyed.

The *principus obsta* here also asserts its right.

I cannot close this short essay without expressing my most cordial thanks to my dear friend, Dr. Ferdinand Timme, in Coblenz, for the great assistance he has given me in the treatment of the patient. Not only that he performed both operations with acknowledged ability, but also that he conducted, with great circumspection, the after-treatment, which was so dangerously complicated by the high and long continued fever, deserves my sincerest gratitude.

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## Art. IV.--Illusion, Hallucination and Delusion—a Differential Study for Forensic Purposes.\*

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By C. H. HUGHES, M. D.,

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LUNATIC ASYLUM, CONSULTING PHYSICIAN MISERECORDIA  
ASYLUM FOR THE INSANE, ETC.

ONE of the catch questions not infrequently propounded by lawyers to the psychological medical expert on the witness stand, is the distinction between hallucination, †illusion and delusion. It is the elucidation of this aspect of the subject, which is to principally occupy our attention in what follows:

The term illusion, in medical language, means an erroneous, imperfect or *mistaken* perception, while hallucination signifies an entirely *false* perception of those centers in the brain, where the external impression made upon and transmitted from the eye, the ear, the nose, or lips, or tongue, or skin, is recognized and individualized or differentiated. The person having an *illusion* sees, or feels, or hears, or smells, or touches, or tastes *some-*

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\*Read before the Missouri State Medical Association, May 18th, 1881.

†It is to be regretted that *Brierre de Boismon*t and other French writers make no distinction between hallucination and delusion, since there does really exist a demonstrable difference and a practical need for a distinction between them.

thing, but the impression received within the brain is different from that of the natural external object, or as the person himself naturally perceives it. It is not the real object, for no one else sees, or feels, or hears the same impression, and formerly he did not. Conditions within the brain, not normally existent in the person's brain, or in the brains of mankind in general when in a state of mental-health, make upon the illusion-impressed person a different internal perception from that realized by himself formerly or by others. For example, a cloud in the heavens, which to every other person appears as but a cloud, to the illusioned may seem a winged monster, or a "very like a whale;" or the familiar whistle of a locomotive may, upon the morbid auditory centers of the illusioned, sound unearthly, like the trump of resurrection's morning; or the bite of a mosquito may awaken impressions of the serpent's fang; the aroma of the rose, by reason of the disease in the pathway of the impression towards the center where mind takes cognizance of and appropriates it, may become the odor of a corpse; and similarly the warm clasp of friendship's hand may seem like the clutch of a foe. These are illusions, *mistaken perceptions* arising by reason of disease along the sensory tracts that lead to those convolutions of the brain cortex where mind resides and receives and assimilates them.

An *hallucinated person* neither sees, nor hears, nor feels, nor touches, nor tastes, nor smells *anything* in reality. *No external objects whatever excite his deranged impressions.* They arise solely within the brain, and are constructed there exclusively and entirely without external excitation. The phenomena, though apparently objective to him, are solely *subjective*, and the mind, while cognizant of the apparent reality of these images, yet reflects and knows that they cannot be, and are not real. Appearing to be real, they are still realized as the baseless fabrics of which visions are made.

Such, then, are illusions and hallucinations. They may exist, for a time, and the mind remain a curious spectator

of them, still unaffected in its balance. The well-known hallucination of Ben. Jonson, of Turks, Roman Catholics and Tartars desperately fighting about the arm of his chair, which the poet witnessed complacently, seeing the moving forms of the contestants as though they were real objects, yet knowing they were not, is an apt though oft quoted illustration, and, likewise, Nicholai, the bookseller, of Berlin, who, in a "state of mind completely sound, saw a vast number of human and other forms, and even heard their voices." He did not believe in their reality.

*Delusions*, as compared with illusions and hallucinations, are *erroneous or false judgments* formed by the mind; as distinguished from the foregoing erroneous or false *perceptions*, the mind does not recognize its unreal perceptions, but believes in and acts upon them as verities, and they so dominate the thoughts, feelings and actions of their unfortunate possessor as to change his individuality as compared with his former and natural self, and thus to make him insane. The morbid condition here is not alone along the tracts of sense perception, but in the centers of the brain cortex, where impressions are evolved into thought, and unreal perceptions become, to the mind diseased, real existences. To the mind which still retains its sanity, the image of an illusion or hallucination is as perfect as when it has, in the more profoundly morbid state, merged into the delusion of the maniac, but the intellect being yet untouched by disease of its special seat in the brain, recognizes the apparent reality to be but a shadow instead of the substance.

Bear in mind that we are here taking no note of erroneous *objective* impressions on the retina, etc., such as mirages, phantoms, the London ghost and other optical illusions arising from certain conditions in the refraction and reflection of light, which deceive only through ignorance of natural science and the possibilities\* of an adroit employment of its laws so as to mislead the eye.

To the physician, illusion, hallucination and delusion, arising from subjective sensation, without objective

impression communicated from without, either upward through the senses or downward through the intellect, have always a morbid basis either in disturbed brain cell action or qualitative or quantitative blood change within the brain and its results; structural change. Let us now see how near we can come to an intelligent understanding of these subjective impressions which simulate objective appearances, and those strange conclusions of the reason, which, though brought about by no external cause, yet so dominate the mind as to lead it to regard them as veritable truths, and give it the impress of mania, or insanity. When we shall have done this our task for the night will be ended.

Take, for illustration, the familiar function of an afferent and efferent nerve and their connecting ganglion. When this anatomical machinery acts normally, no efferent message is sent to the periphery from the ganglionic center without some afferent impression having been received there. And, when a central impression is made, a certain definite and natural movement takes place in the ganglion, the peripheral expression of which (if the central movements be expressed in external motion) attests by its definite and natural character, the healthy state of the central terminus of nerve *impression*—the ganglionic factories, where peripheral impression is worked up, transformed or manufactured into expression, if expression is required by the nature of the transmitted impression.

In spinal or cerebro-mental disease, as in convulsions and *delirium tremens*, for instance, the case is different. An order may be sent without one being received, or an impression felt when none is made. Limbs and ideas are thrown into disordered action without normal excitation, or, if the excitation be normal, the responsive thought or action are abnormal.

If we look in upon the brain with a microscope, we find it composed of myriads of cells, ranging in diameter from  $\frac{1}{300}$  to  $\frac{1}{3000}$  of an inch, and of almost every

ceivable shape—spindle-shaped, a-polar, bi-polar, multi-polar, radiate and triangular, etc., with still smaller bodies called nuclei and nucleoli packed within each other like the layers of an onion, and these cells are connected with each other by still smaller nerve filaments, ranging from  $\frac{1}{1300}$  to  $\frac{1}{100000}$  of an inch in diameter, around and between these are the albuminous granules of protoplasm, and pigment granules and the blood which flows everywhere among these atomic bodies.

It is by reason of the infinite number of these corpuscles—as infinite in number as the stars are in the firmament, and as infinitely grand in function—that the motions of thought and perception go on and impress the material world without and are in turn being impressed by it. Every impression going to, or thought proceeding from, the mind or emotion excited in it, is accompanied with motion in the molecules of the brain. Some of them are in perpetual motion, and with this motion is associated the ceaseless processes of waste and repair, so that it is only when life ceases that they are at absolute rest, and even this rest is another kind of motion—the chemical movements of decay and death. What a wonderful thing is life! The world upon which we live is in constant motion revolving on its axis, and in its appropriate sphere in space, whilst our bodies constantly move upon it, and within our bodies those little cells, no less than the great planets of boundless space, keep ever on the move.

What a wonderful thing is motion!

“Mr. W. R. Grove\* arranged a box filled with water, in which he placed a prepared daguerreotype plate, a gridiron of silver wire, a galvanometer coil, a Brequet’s helix and a set of needles in such a way that, when the light struck the plate, chemical action begun in them, evolving electricity which circulated through the wires, magnetized the coil, heated the helix and *moved* the needles.” What began as an image on the plate became motion in the needles. So, in the process of vision,

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\* From Dr. Edward H. Clark’s “Study of False Sight—Pseudopia.”

what begins as an image caused by the light on the retina ends in the movement of the cells concerned in mental perception and conception, or the display of thought in the brain.

No one can tell from the investigation of science, solely, what it is that thinks, but the conditions of thought are plainly enough revealed in *motion*, and, in regard to the soul of man, it is here that science serves to reveal the necessity of a higher revelation. Science cannot put its finger yet upon any cell or group of cells wherein resides the soul, the ego, the me, the distinguishing personality, though, by physiological experiments—electrical excitation and ablation of successive portions of the brains of animals, and by the teachings of circumscribed disease within the cranium—much of the function of different parts of the brain has been discovered.

Centers of motion and sensation have been quite definitely located, and these centers are composed, like the rest of the brain, of groups of infinitely small bodies called corpuscles-cells, with their inclosing nuclei and nucleoli, interlacing nerve fibres, and connecting nerve tissue called neuroglia, like the other parts of the brain. A community of interest and actions govern these microscopical members of the cerebral state, like that which exists among the diverse and distant, but connected, individuals of the body politic. When health exists, all move on in their respective spheres harmoniously, the higher ganglia watching over and restraining the lower, and all together, working out the brain's normal destiny. But when disease enters the domain of mentality, the phenomena of insurrection and rebellion appear. The psychomotor centers begin to act independently of the will, and display their disloyalty in convulsive movements, or failure of movement, which the will cannot control, the centers of sight, or touch, or taste, or smell, one or all together, send up false telegrams, never received from without, to the monarch enthroned above them, and excite unusual movements of thought, emotion and impulse. So long



as the higher centers of the brain, where thought resides, preserve their integrity, the mind is still rational, just as the king may remain undisturbed and undamaged upon his throne after a portion of his subjects, ungoverned by his commands, have foresworn allegiance, and are carrying torch and sword and spreading destruction through portions of his realms. In the nervous organism, as in the complicated machinery of state, there may be treasons and stratagems against the central head of the government, while that head still maintains its hold upon the throne.

It is commonly supposed that we see with our eyes, hear with our ears, and so on. But it is the brain and the mind which really sees, and hears, and feels. These organs of special sense are merely the apparatus by which the form or sound or other sensible property of objects are received from the world without, and the beginning of their transmission to the proper sensory centers in the brain, where sights, sounds, etc. are first perceived and distinguished from other sights and sounds.

In the mechanism of sight, for example, we have first the eyes, with their *irides*, lenses, chambers, fluids, retinae and optic nerves, continuous into the brain. Then we have the tubercular quadrigemina—four twin nervous bodies at the base of the brain in direct communication with the optic nerves, where the impression of light and external objects is first appreciated within the head. Then the centers of vision in the hemispheres—the angular gyri, probably—where distinctness and differentiation of vision takes place, and objects are recognized, registered and remembered in the proper form, with their characteristic difference from other external objects.

The apparatus of the eye may be likened to the *camera lucida* of the photographer, where the first impression is made, but there is no consciousness in the instrument, the consciousness is in the operator who stands behind it, and who, so soon as an impresson is made on the prepared plates in the box, becomes cognizant of

it, takes it away and hands it over to his associate artist in the laboratory to be "developed" or brought out in all its distinguishing lineaments, after which an errand boy takes it to the proprietor, and the proprietor makes the final disposition of it.

Like unto this process is that of human vision. The first operator that takes cognizance of the picture when it is obscure is the four tubercles already mentioned, it is then passed on to the angular gyrus or visual area in the hemispheres of the brain, where it is more clearly distinguished, laid away in memory for future use, or action may be taken upon it at once by the centers of ideation or thought, and will.

The three steps are, therefore, impression upon the *retina*, perception in the *corpora quadrigemina*, and *perfected* perception transformed into *conception* in the visual centers of the convolutions—the *pli courbe* or angular gyri and contiguous portions of the cortex. This is sufficiently approximative for medico-legal purposes, though it is probable that the internal distribution of the optic nerve fibres embrace a much greater area of the gray cortex. This is proven by the slicing experiments of *Monk* to demonstrate the optic area of the cortex, and the testimony of *Stilling*. It is not within the scope of this paper to review the utterances of *Ferrier*, tending to the abandonment of his former view, that the angular gyrus is the sole sight center, or those of *Dalton* in support of *Ferrier's* original proposition. The novel attitude of these physiological gladiators is, however, very interesting reading. Besides all this, additional encephalic movements, other than conception, called emotion and psycho-motor impulse, usually take place before the completed result of an object imaged upon the retina and transmitted in cell changes along the channels of the visual apparatus, is reached in the normal brain. If a pebble dropped into the vast ocean, may disturb its surface to its uttermost bounds, how like unto this is the phenomena of the course of a visual or other special sensory impression on its way in

the brain. The image impression becomes a definite conception, is registered in its appropriate place among those myriads of cells of which the organ of the mind is composed, and may be reproduced with more or less vividness by an effort of the mind years after it was first implanted, and sometimes at the hour of death coming up unbidden, when more recent and evanescent impressions have passed away.\*

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\* *M. A. Brierre d Boismont*, without distinguishing hallucination from delusion, describes hallucination as the "outer garment—the daguerreotype of an idea being only the corporeal portion, while *pure conception* is its psychical part." (*Rat. Hist.*, of Hal., 1853, p. 252.)

With him, both a *percept* and a *concept* were essential to what is now termed hallucination as distinguished from delusion. We incline ourself to the belief that a completed hallucination has a transient psychic element in it, which is always secondary to the false perception, and but lightly joined to the concept, while in delusion the *conception cannot be severed from the perception*.

So long as the precise *locus menti* in the cortex continues to be as it is now, an anatomical *latibulum* some latitude for theory as to the ultimate composition of an hallucination may be conceded.

As to whether illusion and hallucination are solely sensory or momentarily psycho-sensory, need not here be discussed. It will not invalidate these distinctions to concede that the surprise of an unusual illusory or hallucinatory impression momentarily impresses the higher cortical centers as a reality. The real fact being that the false or erroneous impression is first made on some special sense tract, and, if accepted at all by the reason, it is evanescently, wonderingly and *doubtingly* received, and only during the formation stage of the *percept*. In hallucination and illusion, the psychic centers are not impressed a sufficient length of time to modify the normal mental actions, while, in *delusion*, the psychic activities are changed and conformed in their expression to the morbid sense impressions.

## Art. V.--The Quality of Mental Operations Debased by the Use of Alcohol— Certain Depraved Mental States Analyzed.

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IT is greatly to be regretted that certain facts pertaining to the pathological effects produced by some toxic agents, and certain morbid conditions otherwise produced upon mental states, have been, and are yet, regarded as phenomena of a *curious* and *exceptional* nature, rather than as of practical and realistic value. The mental states alluded to, have an actual existence. The statistics of crime clearly place the occurrence of criminal acts, largely to the account of alcohol; or, more properly, *to the mental conditions induced by alcohol*. What, then, can be more eminently *practical* than the recognition of the obliquity and idiosyncrasy of mental phenomena as occasioned by alcoholic influence; and what can be more proper and useful than a careful study and analysis of the peculiar mental conditions; or *deflections in mental courses*, consequent upon alcoholic stimuli?

These reflections have recently been suggested with renewed force by a criminal trial which came under our observation.

A party was placed on trial for perjury. Among other grounds of defense it was claimed that, although the oath might have been false, the circumstances under which the mind of the criminal was placed, were such as to render him incapable of knowing what did really occur; and that hence he might have been deceived, and honestly have sworn to facts in the belief that they were true, while in reality they were not true; in other words, he had been drinking alcoholic

liquors, and it was claimed that he had become oblivious to the actual occurrences which took place soon afterwards; and, that while his beliefs were honest, his mind was so affected that he could not remember facts as they truly happened.

The merits of the case alluded to have nothing to do with the principles to be discussed hereafter. They are noticed merely as exemplifying the possibility that such questions may arise at any time and the medical faculty be called upon to decide whether such a state of oblivion can occur to a mind under the influence of alcohol; and, if so, whether a stated case on trial was or was not so affected.

And now let it be understood that the point under discussion is, not whether a person stupid and oblivious from alcoholic poisoning, or from the pressure of *alcoholic* sanguinous cerebral congestion is in a state conducive of amnesia. Under such conditions there can be no doubt, much less dispute. Such a condition, if proven, is decisive. A person thus affected can have no real consciousness, either normal or abnormal. He cannot remember—he cannot act at all unless it is with the greatest manifest difficulty and incoherence. But the question in this connection is, can a person be so affected by alcohol—while he pursues a connected and apparently rational course for a longer or shorter period of time, extending from a few hours to several days—that he will be unconscious as to what happens in such intervals of time, and utterly lose all memory of the facts and events with which he has been connected in those intervals?

In the criminal trial above mentioned, the writer testified that it was possible for a person, in some degree under the influence of alcohol, to live, move, act, talk and do business in a manner which would not readily reveal his actual conditions to others; and yet, after an interval of time, more or less prolonged, he might become possessed of a different or normal consciousness, and then

discover, by documents or other evidence, that he had committed a series of acts, and lived a period of active life, of which he retained no recollection whatever.

It is well enough to mention that another medical gentleman testified in the same case, that if the drinking man could walk about (as it was proven the prisoner was capable of doing), and was not helplessly stupid or overcome, "of course" he could remember everything that happened in his personal relations. His testimony was in effect that a pretext of forgetfulness, unless intoxication was absolute, was a sham and was false.

Presuming that the importance and practical bearing of such questions will be perceived, and that such contradictory testimony as that just related is a shame and a degradation to medical pride and dignity, it seems fit that some inquiry should be made respecting certain mental conditions arising from the use of alcoholic stimulants.

1st. It is true that certain persons, when under the influence of alcoholic stimulants, in a degree much short of stupidity and helplessness *do enter into a neurotic state*, during which they act with seeming propriety and judgment, and yet, upon emerging, after a period of greater or less duration, from that state, they have not any recollection of the events with which they were associated during its continuance.

In illustration of the truth of this proposition, some cases reported by DR. CROTHERS, of Hartford, Conn., in a paper read by him before the *American Association for the Cure of Inebriates*, at New York, in May, 1879, will be cited as pertinent. An abstract of the reports containing the important points only, will be given. The cases so reported will be found in the sequel to cover a large area of investigation:

CASE I.—One E—, after pursuing an intemperate course for a series of years, became affected by alcohol in the following way: He seemed not to know what was going on after he had drank for some time, although he appeared and talked in a rational way.

He had afterwards no recollection of what had happened. He would lose all consciousness of his present condition, and afterwards, when he returned to his natural state, he would find that it was an interval of blank to him. In this interval he would transact business and act as usual, his friends not noticing anything peculiar.

This man died after a few months from some obscure affection of the brain. It is proper to add that he had, at one time, an attack of *delirium tremens*, and, at another time, he *had a fit*.

CASE 2.—T. H.— occupied a responsible position during the war. Becoming a drunkard, he went to an inebriate asylum, and quit drinking for three years, but, upon the death of his wife, he began drinking again. Two or three glasses of whiskey would make him oblivious to all memory of passing events. He would show excellent judgment in business, and give but little evidence of being under the influence of liquor. He would insist upon the observance of all the rules of social propriety, and would observe them himself. On one occasion, when drinking in New York, he remembered nothing beyond a certain point. During this period of *amnesia*, he witnessed an assault which ended in a murder. He went before the coroner and testified clearly as to the facts; giving no evidence of his actual condition. Two days afterwards, his consciousness having gained its normal state, he had no recollection of these events, and could give no evidence to confirm his previous testimony. The lawyers believed he so acted to shield the prisoner, although he could have no motive for so doing. His peculiar conditions of oblivion still continue to recur.

CASE 3.—O— had an attack of alcoholic convulsions after a long debauch. Remained sober for six months. When he began drinking again, he found that he could not recollect anything that occurred when he was drinking, even though his potations were not deep.

CASE 4.—A— was injured by a shell during the war, remaining unconscious many hours in consequence. He drank, but not with regularity. The impulse to drink would come on him, at times, with overwhelming force. At length he detected himself transacting business that he could not remember anything about afterwards. At one time, he displayed great energy and

tact in dealing in cotton and rice, though the magnitude of his operations gave some anxiety to his friends. The ventures proved to be profitable, but he retained no remembrance of them when he became entirely sober.

CASE 5.—A——, injured in the head by a fragment of shell, became a drunkard, then quit drinking for two years. Afterwards resumed his habits of intoxication. He was a lawyer. In preparing a case for trial, he drank, but not to excess. But, upon going into the court room, he became oblivious. Thirty hours afterwards he had no recollection of what occurred in the trial. During this interval he had conducted the case properly, making his argument before the jury, and writing out a long argument in favor of a new trial. This work was all well done. These blanks came and went suddenly. Sometimes a single glass of whisky would suffice to bring on the state of trance, and sometimes more would be required to induce the state.

CASE 6.—A. H——, whose mother was epileptic; drinks at intervals only. He will become oblivious suddenly at some unexpected moment, and continue in that condition until he has obtained some sleep. He appeared abstracted, and could only write short articles (for a paper he edited) in a connected manner. Long articles were more or less incoherent. He could not recall any hint of what had taken place while in the state of abstraction, although he transacted his routine business tolerably well.

These cases cover the ground occupied by our first proposition respecting the possible occurrence of *amnesia* under a slight influence of alcohol. Dr. C. H. Hughes, of St Louis, Dr. Hammond, of New York, and other distinguished authorities have observed and reported other similar and analagous instances of impaired consciousness arising from the neurotic diathesis, however such diathesis may have originated.

It is, therefore, assumed that certain persons addicted to drink are liable to become affected with such an impairment of consciousness as will render them oblivious to events arising while under the influence of liquor; and that, too, without of necessity, indulging inordinately.



We say *impairment* of consciousness, because the connected pursuit of business, while in the mental condition alluded to, proves that consciousness—that mental attribute which furnishes knowledge that we feel, we think, we exist—is not *lost*, but is operating on a plane different from, and inferior to, its normal plane of activity. Indeed, the whole mind is, to some extent at least, operating upon such inferior plane, and is, to the same extent, operating automatically. Hence, the *auto-amnesia*; the coming and going of the symptom spoken of is sudden—without premonition. Hence, also, there is no relationship, either through suggestion or association, between the abnormal and the normal consciousness. They are separate and distinct, as much so as if they belonged to entirely different minds, and the events of one state cannot enter into the consciousness of the other state. As usually stated, there is amnesia or loss of memory.

But it is not sufficient to pause here. That such a condition is possible, might be discovered by the ignorant and casual observer. It is the duty of the physician to say what is the cause, the reason, the nervous and mental *modus operandi* concerned in the development of the mental condition illustrated by the foregoing examples.

We will, therefore, state a proposition, partly shadowed in the one already given.

2d. We affirm that the phenomenon is simply an exhibition of a certain disordered *neurotic state*; a state in which the nervous centers are not in a condition of equilibrium—whether the fact arises from heredity, or from some injury, or from some toxic or morbid agency.

This unsteady equipoise is manifested in various ways, in mind and body.

a. It is *transmissible* in an *interchangeable* manner (or form) from ancestry to posterity.

b. It may also be displayed in an interchangeable manner in the person of any one affected with a neurotic diathesis.

First, then, as to its transmissibility as an inheritance in a manner, exhibiting variations in its forms: "I have observed frequently," says Dr. Fisher, of Harvard, "that an inherited tendency to melancholia may lead to dipsomania. Of two brothers in the same hospital, one was melancholic and the other dipsomaniac. The same cause, which in one induced melancholia, in the other induced dipsomania." Dr. Maudsley [*Pathology of Mind*, p. 488] says: "The condition (dipsomania) is, undoubtedly, oftentimes hereditary, or the outcome of a neurotic temperament; some ancestors having suffered either in the same way or from some other nervous disorder." Again, as regards neurotic states being transmitted hereditarily in interchangeable forms, the same authority says [p. 108]: "Epilepsy in the parent comes out, perhaps, in some form of insanity; or, insanity in the parent as epilepsy in the child. \* \* \* In families where there is a strong predisposition to insanity one member shall suffer from one form of nervous disease, and another from another form. One, perhaps, has epilepsy; another is afflicted with severe neuralgia or hysteria; a third may commit suicide; a fourth become maniacal or melancholic; and it might even happen sometimes that a fifth evinced remarkable artistic talent. Neuralgic headache and asthma will often be discovered to own a neurotic inheritance—or found one. The neurotic temperament is fundamental; its outcomes are various."

We now come to the consideration of the interchangeability of the forms of neurotic conditions—not as transmitted from one generation to another, but as exhibited by one suffering from neurotic diathesis in his own person—that diathesis above described, in which the nerve centers are not in equipoise.

"A man," says Maudsley (pp. 81-82), "seized his child, who was in bed with him, and dashed its head against the wall, believing he had seized a wild beast which had risen through the floor to attack the child. His wife's screams woke him and he was horrified to find

that he had fatally injured the child, of which he was very fond. His father and mother both had epilepsy. He was himself addicted to sleep-walking. This case strengthens the opinion of the old writers, who believed there existed a close connection between somnambulism and epilepsy. It is believed that the attack was epileptic in this instance; but that the discharge took a mental direction rather than a motor one." Instead of a fit, there was a brief insanity.

Again, the same author (p. 445) says, that "the epileptic, surly and irritable, imagines that some one is threatening his life; and then if the fit takes a mental turn rather than a convulsive (motor) one, he may commit an atrocious and desperate homicide, during a brief period of insane fury."

It is certainly unnecessary to pursue this branch of the subject further. It now remains to apply these well established and familiar doctrines to the cases with which we opened our discussion.

It will be remembered that some of these cases were by no means simple in their phenomena. Two of the subjects had sustained injuries of the head by shells. In these the alcohol seemed to be the exciting, rather than the predisposing cause of defective consciousness. One had been a victim of delirium tremens before he suffered from the loss of memory; two had been seized with convulsions and one had inherited a neurotic temperament, his father and mother being epileptic.

It is therefore easy to trace the change of form assumed by the neurotic seizures—from the original establishment of a neurotic diathesis, evinced by the reception of injuries and subsequent unconsciousness; the occurrence of delirium tremens and the phenomena of convulsions—to another form of neurotic symptom, namely *amnesia*—loss of memory—impaired consciousness. The authorities and illustrations we have introduced as to the interchangeability of neurotic forms in other cases, make clear the

facts of similar changes arising from the toxic influence of alcohol upon neurotic subjects.

If then, there is so ready an interchange of abnormal forms when a neurotic diathesis is once clearly established, whether that establishment is due to injuries, habitual drinking or heredity, what is there to prevent the victim of drink from becoming suddenly and violently crazy instead of merely forgetful or unconscious; and what is to prevent him, in such circumstances and conditions, from the commitment of the most horrible and bloody deeds? There is nothing to prevent it, and such deeds of horror so inspired are of daily occurrence somewhere in the land.

It is difficult to conceive of any just reason of policy or statesmanship which will justify any government in giving respectability, either in the way of legality or responsibility, to a liquor traffic which carries with it such far-reaching and disastrous consequences.

It may be alleged that the cases described of *cerebral trance* from the use of alcohol, merely represent a class of persons already neurotic from other causes. Let us examine a little in detail the nature of that state called intoxication, and then determine whether or not that state is itself a condition of neurosis; and, of course, such a condition as will propagate itself upon the well known principle, that life-long habits are likely to inflict some form of hereditary peculiarity of an allied nature.

In general terms we will describe the obvious condition of a person in a state of real intoxication. We see a manifest change in his muscular (motor) centers. The expression of the countenance will be radically changed. Not only the appearance of the eye, but all the muscles of the face giving interpretation to thought and emotion, undergo a marked and unmistakable modification of expression. These things evince changes in the intensity as well as actual character of the thoughts and emotions of the mind, due to the imperious domination of alcohol, and beyond the power and will of any mind.

The *general* muscular system is so impressed in actual intoxication, as to warrant the conclusion that the motor centers, as a rule, are seriously affected by the action of alcoholic drinks. Thus we have the staggering gait, the unsteady eyes and the uncertainty in articulation. This turmoil in the motor centers is attended by a corresponding agitation in the ideational centers. After a transient exaltation and apparent brightening of the intellect, the thoughts become fixed and are obstinately adhered to in consequence of an exaggerated idea of their importance. They are likely, also, to assume a vulgar and degraded level. The drunken man will let his mind dwell upon subjects and become interested in pursuits which he would regard with detestation in his sober moments. The degradation of the moral side of his mind and the unstable equilibrium of his ideational centers are further shown by his tendency to seek associates worthy of the baseness of his condition and thoughts. He is prone to ignore the important warnings of dignity and prudence, and he makes bosom confidants of persons for whom, when sober, he has no feeling but contempt. To such persons he not unfrequently betrays his best interests, his safety, his honor.

The drunken man is, furthermore, the victim of important changes in his sense or touch centers. He is in a condition of more or less anæsthesia. He is insensible to pain. If he is hurt, he only knows the fact by seeing the rent in his skin and the flowing blood. Even the emotional or sympathetic sensibilities, such as the sexual feeling are, for the time being, benumbed or suppressed. That *hyperæsthesia* follows, at last, in reaction—that the slightest sound gives exquisite pain, and the sympathetic sensibilities are all morbidly acute, does not detract from the truth of the doctrines here put forth. In truth, final hyperæsthesia presupposes the primary anæsthesia of the intoxicated state.

Here, then, we have the motor centers, the ideational (both intellectual and moral) centers, the emotional and the

common sensation\* centers, all disturbed and out of equilibrium in the drunken man. We, therefore, lay down this proposition :

3d. That a state of real intoxication is a condition of true neurosis; and that the subject of it is liable to all the changes, sudden and mysterious, that characterize the neurotic temperament, wherever found or however produced.

We have, in a person intoxicated, the whole man, body, mind and spirit, wrenched from his normal state, and in his place we have a personage of a different character altogether. The opinion that much of the crime of the land is but the outgrowth of a state of mind and morals produced by alcohol is well founded. The moral debasement produced by alcohol demands jails and penitentiaries. The intellectual injuries flowing from its use call for insane asylums; and the damage it inflicts upon nerve centers concerned in the conservation of bodily health creates the necessity of multiplying hospitals. The woe and horror, and anguish implied in the simple statement of the above facts defy description. In their presence words become tame and are shorn of their meaning.

It may be worth while, in further illustration of the neurotic character of drunkenness, to point out that a drunken man may, at times, be affected in a partial manner; as has been represented by the interchangeability of neurotic forms in the same person. For instance, the alcoholic poison will sometimes affect principally the motor centers, making locomotion difficult or impossible, while the ideational centers are not very sensibly impressed. Again, the intellectual or moral traits may receive the chief alcoholic impression, while voluntary motion is not greatly impaired. It is impossible for a drunken man to

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\* Consciousness being "the knowledge of sensations and mental operations, etc.," it is evident that where there is no sensation as in anæsthesia, or only imperfect sensations, that consciousness, as it takes note of *sensations*, under such circumstances must be a very poor guide to reason and conduct. The same inference is proper concerning consciousness, as reflecting other impaired internal and mental states, during the dominancy of intoxication. Drunken reasoning must, hence, be defective and partake largely of the *delusive* element.

successfully feign sobriety. The disturbed nerve centers are too much in earnest, and their functions are too greatly impaired for any voluntary effort to disguise or hide their morbid condition. In the former part of this paper, consciousness has been described as operating on different planes disconnected with each other; and, hence, having no relationship which can become the subject of mutual recollection. The abnormal conscious life must be unknown to the life of normal consciousness. The events of one state being recalled only upon a return of consciousness to that state, whether it is normal or abnormal. The somnambulist will only remember his sleep-walking life when he again enters the neurotic plane of somnambulism.

But there is a kind of mental life belonging to the impressions of alcohol, where the planes of consciousness are not steady and defined; where there seems to be a wavering in the state of consciousness between an impaired condition and a natural, healthy condition.

The following abstract of a case recently reported in a daily newspaper, will illustrate our meaning:

"A man attired only in a shirt and hat rushed into a saloon on Sycamore Street. He could give no satisfactory account of himself, but showed signs that he had been drinking. At the station-house he so far recovered as to give his name and residence. He was stopping at the Gibson House. In the evening he had taken several glasses of beer, the first liquor he had taken for months. He remembered stopping in front of a yard somewhere, and at the same time thinking he was at the Gibson House, he undressed and hung his clothes on the fence. After a long search his clothes were found hanging on a fence on Sycamore Street. The coat, vest, pants and necktie were on the fence, while on the pavement were his shoes with his stockings in them. In the vest were a gold watch and chain, and in the pockets of the pantaloons were found a check for \$500, and \$20 in gold."

Here was a case of temporary insanity, connected with a wavering or unsteady consciousness, which would be much more liable to result in serious consequences than the simple neurotic condition of impaired consciousness attended with loss of memory only.

It is probable that enough has been said for the present on the subject of defective mental states induced

by alcohol. With respect to the responsibility of a mind for acts done while in a condition of impaired consciousness, or of consciousness wavering or convulsively acting, it will, we presume, be the verdict of every one thoroughly conversant with this subject, that such a mind, being incapacitated from forming a truly rational motive, cannot be held fully responsible.

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## Art. VI.—Unilateral Hallucinations\*—A Contribution to the Pathogenic Study of Hallucinations.

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*Supplemented by Tamburini's Theory on the Subject.*

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*By E. REGIS.*

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Translated by A. H. OHMANN-DUMESNIL, A. M., M. D.,  
St. Louis.

THE author, after giving the different theories in regard to the pathogeny of hallucinations, gives the arguments advanced by Marcé, Luys, Voisin and others, and himself inclined to the psycho-sensory view. He says that the tendency of the modern school is to admit, to a degree, the intervention of a somatic element in the production of hallucination. Logical and material proofs are daily accumulating in favor of this opinion, and the day is, perhaps, not far distant when the purely psychological theory, after having shone with such great brilliancy, will disappear.

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\* *L'Encephale*, No. 1.



One of the strongest proofs of the somatic origin of hallucinations he considers to be a subject which has, unfortunately, been but little studied. It is a very curious phenomenon, called, by *Michea*, *divided hallucination*; and which is to-day more justly termed *unilateral hallucination*. It is nothing more than a localization exclusively in one of two symmetrical halves of the same special sense, or its manifest and prolonged predominance in one of these two halves.

The author here cites cases mentioned by Michéa,<sup>1</sup> Boussat,<sup>2</sup> Bodin,<sup>3</sup> Berbiguier,<sup>4</sup> Schroeder van der Kolk,<sup>5</sup> Moreau, Baillarger,<sup>6</sup> Maisonneuve,<sup>7</sup> Marcel Donnat<sup>8</sup> and Robertson,<sup>9</sup> which probably point to unilateral hallucinations, but, unfortunately, they are so briefly stated that no very important deductions can be drawn from them. In all of them, however, the sensation was always referred exclusively to *one side only*. \* \* \* \*

It must be conceded that the cause of unilateral hallucination resides in the organ of sense, and this deduction is, without doubt, absolutely logical. It now remains \* \* \* to demonstrate to a certainty that unilateral hallucination is of somatic origin.

Up to the present day authors have limited themselves, for want of better, to giving the most varied hypotheses in regard to this matter.

"What," says *Michea*,<sup>10</sup> "is the principle of peripheric subjective perception? Would not a certain modification of the sensory nerve fibres, produced by a lessened quantity of blood in their capillaries, or by a too rapid abstraction of this liquid, be a substitute for the influence of external sensation of the external motor?"

1 Du Délire des Sensations, 2 éd., Paris, 1851, chap. v., p. 106.

2 Observat. d'Hallucin. (Encyclograph. Méd.), Feb, 1845, p. 327.

3 Démonomanie des Sorciers, Paris, 1850, p. 10, et. seq.

4 Des Farfadets., Avignon, 1821, t. i., chap. vii.

5 The Pathology and Therapeutics of Mental Diseases, p. 113, London, 1870.

6 Des Hallucinations, des Causes qui les Produisent, etc., Paris, 1846.

7 Observations sur l'Epilepsie, p. 295.

8 Hist. Medic. Mirab. Frankfort, 1513, lib. xi., cap. i., p. 199.

9 British Medical Journal, 1875, vol. ii., p. 274.

10 British Med. Jour.

Robertson<sup>11</sup> attributes the production of unilateral hallucination to the autonomy and independence of action of the two hemispheres, and, in effect, in the sensorial order, a phenomenon analogous to unilateral convulsions, in the motor order.

M. Ritti<sup>12</sup> and M. Luys<sup>13</sup> look at this matter in the same manner, think it probable that hemilateral functional disturbance of the centers of the optic tract is the starting point of unilateral hallucination.

Prof. Tamburini, of Modena, in a lecture recently given in the *Revue Scientifique* (Jan 29, 1881), admits that hallucinations are caused by an irritated condition of the sensory centers of the cortex, and it follows that unilateral hallucination is due to the irritation of the half of one of these centers.

These are but theories, pure hypotheses. Where are the facts demonstrating them, where are the observed cases accompanied by an undeniable lesion? What, in a word, is the real cause of unilateral hallucination in a physical point of view?

Here, then, is the cause, and we will see that it not only explains the genesis of this remarkable phenomenon, but also *becomes an irrefutable argument in favor of the intervention of a special sense for the production of hallucinations.*

Last year, a patient of *La Clinique* told us, in the course of examination, that he frequently heard injurious and coarse epithets, the spoken repetition of his thoughts, etc., and that all these auditory phenomena were perceived *alone by the right ear*. He could provoke these hallucinations at will by closing the left ear with his hand, and concentrating his mind upon some thought. Almost immediately, this thought would be distinctly articulated in the *right ear*. The same thing would be produced if, when lying in bed, the *left ear* was strongly pressed upon the bolster. This patient had been affected

11 Loc. cit.

12 *Theorie Physiologique de l'Hallucination*, p. 64. (Thèse de Paris, 1874).

13 *Gazette des Hôpitaux*, Dec. 14, 1880.

since the age of twelve with a purulent otorrhœa, localized in the *right ear*; and M. Miot, who made a complete examination of the ears, found it was the seat of a chronic catarrh of the tympanum, with perforation of the membrane, and a certain degree of myringitis.

Struck by this fact, which seemed to show an intimate relation between the sensory lesion and the hallucination, the latter succeeding the former, and both remaining localized in the same organ, we thought that this was an isolated case, and that, in principle, unilateral hallucinations could have, for their starting point, a unilateral lesion of some special sense. From that day, we looked for cases of this kind, almost certain of finding confirmation of our hypothesis.

A little later, *Arnold Pick*,<sup>14</sup> adjunct physician to the lunatic asylum, at Prague, published an observation which was very analogous to ours. It was that of a patient who not only had hallucinations *limited to the left eye*, but who, in his vision, only perceived *the upper half of the objects*. An ophthalmoscopic examination discovered a loss of the visual field, limited to the *superior half of the retinal surface*. [This is given more in detail further on.]

Since that time, we have had opportunities of observing two other analogous cases, and, in both, we have found unilateral lesion of the sense affected with hallucination. Looking over, and attentively considering, the works of different authors, we have found the following, which agrees with the one just cited. It is recorded by *Baillarger*:<sup>15</sup>

"Of a patient who had a humming sound stronger on the right side, and in whom voices were heard much more on that side.

"This patient, aged 41, of a sanguine temperament, had, since one year, frequent cephalalgias vertigos, humming in the ears, and notably in the *right ear*. She

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<sup>14</sup> Beitrag zur Lehre von der Hallucinationen, 1880.

<sup>15</sup> Loc. cit., p. 302.

entered *la Salpetriere* with hallucinations of hearing, dating back some time, and after having thrown herself out of a window, believing herself pursued.

"From the beginning of the disease, *the voices were heard more with the right ear; it is also on the right side that the humming is most intense.* About October 1st, *the right ear commenced to run; the patient found her night cap spotted, sometimes with a reddish water, and, at others, with a little blood.*

"The menses reappeared October 16th, and ceased on the 19th. The hallucinations continued at the time of sleep and of awakening, and they still existed, in a slight degree, at the time of patient's discharge, October 23d, 1841."

The case is short, but conclusive. To those who still doubt, regarding those cases as merely coincidences, we offer a more decisive argument. We have spoken of the young man of *la Clinique*, who suffered from otorrhœa since the age of twelve, and in whom the auditory hallucinations were permanently limited to the affected ear. On the advice of *M. Miot*, we submitted the patient to a local treatment, consisting of astringent washes for the ear, and hypodermic injections of muriate of pilocarpine. This treatment giving no results, we daily made punctated cauterizations by means of Paquelin's thermo-cautery, on a level with the mastoid region. At the end of a fortnight, a marked improvement showed itself, both in regard to the otitis and the hallucinations. After a month of this treatment, the flow of pus had ceased entirely, and the hallucination had completely disappeared, together with the delirium which accompanied it. It is five months since we have renewed the cauterizations at intervals more and more distant, in order to be able to cease from them altogether. At the present time, the patient is completely cured [see case 4].

The fact of the cure of the *leison* effecting a cure of the hallucination, is a most convincing proof of the influence of a sensory lesion upon the production of a hallu-

cinatory phenomenon. We think ourselves justified to conclude, from the facts brought forward, that *unilateral hallucination is caused by a unilateral lesion of the special senses.*

It may be objected that what we took for hallucinations were really illusions. For those who do not, in principle, admit the existence of hallucination, but range under the generic term of illusions all the pathological phenomena of a sensory order, it is of little consequence. It is nothing but a mere question of terms, and whatever be the term given to the unilateral affection of which we are speaking, it suffices for us to prove that a unilateral sensory lesion was clearly the cause. But for those, and their number is great, who still admit the classical distinction between illusion and hallucination, the term to be applied to the phenomenon becomes of extreme importance, and it is on their account that we wish to show that it is really with hallucinations that we are dealing.

First we must say that all authors, ancient and modern, who have reported cases of this kind, have included them under hallucinations. Michéa, himself, thus expresses his opinion on the subject: "A peripheral hallucination must not be confounded with a sensory illusion, for this latter is never effected without the aid of the laws of animal physics, whilst the other does not at all require this aid, and very easily takes place in the event of its absence." From its very definition, illusion requires an external impression to be produced; for it is nothing but the false interpretation of a sensation made. Whenever this sensation is not present, the pathological intellectual perception is no longer an illusion, but a hallucination. It follows then that an unilateral illusion would be one recording an impression made, under an entirely different form and in one-half of the special sense; whilst, on the other hand, a unilateral hallucination also records some sensations on one-half of a sense, but in the absence of all external impression.

In our patients it is of the latter kind, and the reason for this is very simple: The pathological phenomenon is

an organ incapable of being impressed by external agents, by reason of the changes it has undergone.

The theoretical difference between hallucination and illusion is found with the same characteristics in pathological cases. In two of our patients the morbid phenomenon existed in the organ of hearing; in the other, in the organ of sight. Whilst in the former it was present in the affected side, in the latter case the sound side was affected. This, at first sight, appears astonishing and we naturally ask what is the cause of this apparent contradiction. The reason is very simple, and arises from the fact that the two former had hallucinations, whilst the latter only had illusions. This patient was alcoholic; and in alcoholic patients, as *M. M. Galezowski* and *Lasegue*<sup>16</sup> have demonstrated, and is admitted by the the greater number of authors, the pathological sensory phenomena are rather illusions than hallucinations. We understand from this why the lesions were localized to the only eye susceptible of being impressed in our patient.

Thus, unilateral hallucination recognizes a unilateral sensory lesion as a cause. The conclusion to be drawn from this fact, in regard to the pathogeny of hallucinations is important, as we have said above, from the fact that it establishes in a firm manner that hallucinations may, in certain cases, have for real origin a pathological modification of the sensory organ in which they are localized.

A physical lesion may then produce a hallucination. This is one point gained. But what is the seat and nature of this lesion? We have seen that those holding for a physical origin of hallucination, located the anatomical cause in the peripheral organs of special sensation, in the receptive ganglia of the optic tract and in the cortical centers of the hemispheres.

These diverse theories seem to us too restricted and exclusive, and we believe that a hallucination can originate as well from a peripheral sensory lesion, as from the

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<sup>16</sup> Archives générales de médecine.

receptive centers of sensation or ideation. We are willing enough to admit that the lesion, at first localized to the external part of the special sense, extends even to the optic or cortical center; but the primary cause of a consecutive hallucination is none the less this peripheral lesion; and the proof of it is that the cure of this lesion, entirely external, sometimes determines, as in our case, the disappearance of hallucination. From this we think that it must be admitted that a hallucination must have its origin in a material lesion of the senses, and that in *some part of their course*.

We have assigned an important part to the somatic element in the genesis of hallucination; but we hasten to declare that this is not the only element in the production of that pathological phenomenon, that the intellectual element also plays an important part. An organic or functional trouble of a sense may give rise to the rough physical phenomenon which will ultimately constitute a hallucination. But the hallucination only really becomes such when the intelligence comes in and taking the primitive phenomenon, still in a rudimentary stage, and makes a definite delirious conception of it, and always in relation with the dominant ideas and pre-occupations of the patient.

If this was not so, if the senses were alone in the production of hallucination, we could not explain why the same sensory lesions do not always give rise to hallucinations, and why, when produced, these hallucinations assume different forms in different patients, the sensory lesion being the same. It is evident, then, that hallucinations, besides a sensory trouble, need for their production an intellectual state previously prepared, a predisposed intelligence in a morbid state of receptivity.

It is enough to say that we are fully of the opinion of *Baillarger*, which, excepting a few shades of difference, is also that of *Prof. Ball*;<sup>17</sup> and that, outside of *psychic hallucinations* or *false hallucinations*, we admit, like them, the *psycho-sensory nature of hallucination*.

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17 *Leçons sur les Maladies Mentales* (fasc 1., chap. Halluc.).

CASE I.—(Observed by Arnold Pick.)—A young man, aged 28, affected with mental debility, upon which was engrafted delirium with predominance of ambitious ideas, and of persecution, had hallucinations of sight and hearing. He had, for some time, noticed that the right eye was affected. He had visual hallucinations with the right eye alone, and only when both eyes were closed, especially in the evening; as soon as he opens both eyes, the visions disappear. His auditory hallucinations are chiefly heard with the right, but occasionally with the left ear.

In regard to the objects seen, they are individuals, landscapes, scenes in theatres, etc. If he sees men, the head and chest are more frequently apparent; if trees, the tops are clear whilst the lower part remains dim. These took place just before going to sleep, and more rarely upon waking.

An examination of the eye showed the media to be clear; no muscular anomalies; visual acuteness  $\frac{5}{200}$  f. g. (Fayer's scale probably); sight painful and indistinct for some letters of No. 8. The sense of colors diminished quantitatively only. A loss of the visual field near the center is found.

It is a pity that the ears were not also examined, as a cause might, perhaps, have been discovered for the auditory hallucination in some lesion of the right ear.

CASE II.—(Observed by the Author.)—J——, aged 41, whose father died of phthisis and mother living, and strumous in childhood, has been addicted to drink since he was 25. On account of a quarrel with his wife, he has committed great excesses in drink, and soon cerebral symptoms manifested themselves. The hallucinations which came on affected the general sensibility, the sense of sight and that of smell. His left eye was the one by which he saw objects. The author regards this as an illusion. The patient was discharged in a few days cured.

An examination of the eyes showed the right pupil more dilated than the left and covered with a white spot. The patient reads well with the left eye, but hardly with the right.



The visual acuteness is for the left eye  $\frac{2}{5}$ , and for the right  $\frac{1}{12}$ . The sense of color is preserved; the usual field is intact in both eyes. There is an irregular astigmatism, small in the left eye, but pronounced in the right. The media are transparent and appear normal, but the right is irregularly elliptical, with its edges irregular, but its color and vessels are normal.

CASE III.—(Observed by Dr. Dagonet.)—G——, aged 33, whose parentage was as follows:—

#### GRAND PARENTS:

*Paternal Side.*—Grandfather died at 94 of old age; grandmother died at 73 of a paralysis on the left side.

*Maternal Side.*—Grandfather died at 54 of a pulmonary affection; grandmother died at 68 of an affection of the heart.

#### PARENTS (Father, Mother, Uncles, Aunts).

*Paternal Side.*—1—Aunt died of phthisis at 24. 2—Aunt died at 70 of old age. 3—Father died at 67, suddenly of cerebral hemorrhage.

*Maternal Side.*—1—Mother living, 67, feeble constitution. 2—Aunt living, 63, paralysis of left side.

#### BROTHERS, SISTERS, PATIENT.

1—Brother, still-born. 2—Sister, died from an accident. 3, 4 and 5—Alive and in good health. 6—Patient, married seven years; two children, one dead.

He has convergent strabismus caused by a violent blow on the left eye when seven years old. Think that it is the result of infantile convulsions. Has been subject to rheumatism also. During 1867 he had cerebral rheumatism and delirium, and he noticed he heard less with the left ear and his left eye was getting worse. The hallucinations of hearing were always rudimentary in the right ear, but pronounced in the left.

He then began drinking to excess and the hallucinations of sight joined those of hearing. The hallucinations were localized to the left side.

An examination showed the organs on the right side were normal; on the left, the eye was affected with convergent strabismus and not employed in vision. The patient with the right eye reads at a distance of 70 c. m., with the left imperfectly at 20 c. m. The media are clear, pupil normal, but with a central white zone.

With the right ear the patient hears speaking more than 5. m. off; with the left hardly 1 m. Watch is heard ticking with the right, at a distance of 1 m., with the left at 20 c. m.

The whole left side is weaker, dragging the left leg when walking.

CASE IV.—(Observed by the Author.)—M—, aged 27, had a purulent otorrhœa since the age of 12, which became such a source of annoyance to himself and others that he became hypochondriac. At the age of 25, he had an attack of mental alienation, characterized by ideas of persecution and hallucinations of hearing exclusively localized in the right ear. The mucous membrane of the ear is congested. The membrana tympani, a little reddened, presents at its upper part a perforation of 4 m. m. about. The internal ear appears healthy. Auditory acuteness varies with the accumulation of secretions, and is about 4 to 5 c. m. The left ear is normal; auditory acuteness, 2 m. about.

The treatment consisted at first of astringent washes and hypodermic injections of pilocarpine. Then daily punctate cauterizations behind the ear, on a level with the mastoid region, by means of Paquelin's thermo-cautery. As the ear trouble became better the hallucinations disappeared, and a complete cure of both was effected. The patient at present hears with the right ear at a distance of more than 1 m.

*Apròpos*, we add the following review of Prof. Tamburini's "*Theory of Hallucinations*,"<sup>18</sup> by C. Boyé, in "*L'Encephale*:"

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<sup>18</sup> *Annales Médico Psychologiques*, Jan., 1881.

Tamburini commences by calling attention to the different theories in regard to hallucinations. Some place their origin in the peripheral sensory apparatus; others consider them as purely intellectual phenomena. A third doctrine, a combination of the two, is the psycho-sensorial. There is still another theory, according to which hallucinations are derived from the sensory centers, and it is this which Tamburini accepts, at the same time completing it by more precise localizations.

M. Luys contends that hallucinations have their seat in the optic tract; they are caused by a pathological irritation of this region. Tamburini contends that the optic tract is merely a connecting band for the conducting fibres. It is higher than the optic tract in the cortical centers that he places the termination of the fibres of special sensation.

To support his theory, he cites physiological experiments and clinical facts, which confirm the relations existing between lesions of the parieto-occipital and temporal regions of the cortex and visual and auditory troubles. He also appeals to anatomy and histology. The former shows the analogy of the structure of the posterior regions of the cortex to the posterior horns of the spinal marrow, destined to sensation; the latter, in following the termination of the optic fibres, reaches to the occipital lobe. They are so many proofs that testify to the existence of sensory centers in the cerebral cortex.

In the same manner that alteration of a motor center produces epileptoid movements, so does irritation of a sensory center produce pathological sensations. These sensations are the monomaniac images of sensations received, which have been deposited in the sensory centers, from which they emanate as a sequel to excitation.

Hallucination is simple, unilateral or multiple, and complicated accordingly, as the irritative process is of small extent, or as it embraces several groups of cells.

*Tamburini terminates his article by recognizing, as a fundamental cause of hallucination, a state of excitation of the cortical sensory centers.*

## Art. VII.—Optic Chiasm—Visual Centers.

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By WILLIAM DICKINSON, M. D., St. Louis.

IN behalf of science it is, perhaps, to be deprecated that conflicting testimony concerning questions of fact within its distinctive domain should exist. Yet, such is the ordeal by which its elements are tried and proved.

Science is not an automaton, its progress is the record of achievements and trophies won by fierce and sustained endeavor. Intelligent discussion is one of the agencies employed, and is, itself, the legitimate crucible for the evolution of truth.

At first presentation, it would seem impossible that questions respecting the decussation of the optic nerve fibres in the chiasma would arise. Formerly, we were wont to regard anatomy as one of the exact sciences, and that what is written is written because it is true; that this was law and gospel; and that all appeals to it, as to the highest tribunal, were conclusive and final. Experience has taught that this conviction is fallacious—incertitude exists here also—and infallibility is nowhere to be found. But this dilemma is not inherent in the *anatomy* of the chiasm; it exists because of the surreptitious introduction of hypothesis concerning its structure; and this counterfeit, plausible and specious has, without due scrutiny, been accepted and denominated the true. The *function* of vision, however, remains the same entity, however violent the throes with which the logic of science has been exercised. Upon the hypothesis of Newton (semi-decussation), the medical world, for a century and a-half, has reposed with a sublime acquiescence. Not three decades now have passed since certain inquiring minds began to investigate the validity of this hypothesis, and, by the irrefragable testimony of anatomical demon-

stration have, as they believe, detected its *falsity*, and proclaimed a new apocalypse. The enunciation of the doctrine of *total* decussation produced an impulse that has passed along the whole line. Science takes the alarm. Numerous athletes leap into the arena to dispute its orthodoxy. Feuilletons, papers and treatises, in the effort to elucidate this subject, have multiplied, and thus has rapidly accumulated an amount of literature, scientific and voluminous, that is marvelous. This result is all salutary, it augurs well; for the day of the redemption of the truth is nigh. A fresh impetus to investigation has been given, which, increasing in intensity and acumen, will know no cessation till the now unknown shall be clearly revealed.

H. Gradle, M. D., contributes, to the *Journal of Nervous and Mental Diseases*, Jan. 1st, 1881, an elaborate and able article, pertinent to the subject under consideration. In respect to the arrangement of the optic nerve fibres in the chiasm (page 129), he commits himself unreservedly to the oracular declaration, "all evidence points in favor of semi-decussation." We will not impute to him ignorance of the recorded observations of Biesiadecki, Mandelstamm, Michel, and, later, Mouillin [*Bartholomew Hospital Reports*, 1879]; for such a charge would cast a reflection upon the extent of his reading, or fidelity of his research. Yet, from his conceived impregnable perch, he does not deign to allude to any *one* of these indefatigable laborers, except to Michel; and to him, apparently, only to drag him from the realm of obscurity that he may attach to him the tag of "untrustworthiness." The above expression intimates that, to his appreciation, no evidence of the doctrine of total decussation exists. He thus evinces fresh proof of the proclivity, of a prejudiced mind, to concur in any accepted theory or hypothesis, rather than to question how far either may comport with the reality, as the Creator has made it. Though Meynert, Gudden and others, in their patient and profound investigations, may have failed to detect *total* decussation, it does not,

therefore, logically follow that another, more fortunate and equally sincere, may not have achieved it. Meynert, I am sure, will not thank our critic, for ascribing to him sentiments and opinions which he could not, *in consistency*, have uttered, viz.: "microscopic examinations cannot decide this point;" for, in his exhaustive monograph, on "The Brains of Mammals," he distinctly assumes the attitude of a dignified neutrality upon the question of decussation, "neither denying nor confirming from personal observation the assertions of Biesiadecki." The latter was considered of sufficient authority to command the notice of Meynert, but not that of our author. An entire commitment to the semi-decussation hypothesis, and the wilful disregard of aught else that did not harmonize with preconceived notions alone would justify such deliberate neglect. What agency shall we invoke to accomplish, in regard to animal structure, that which the microscope is incapable of achieving? Shall physiological experiments or clinical experience be held superior to anatomy? True, anatomy may not determine function, but it unerringly determines the direction, and prescribes the limits within which it is to be sought, and to its arbitrament must every question of the *how* be finally referred.

Until that luminary shall arise in the microscopical firmament, whose single effulgence shall confessedly exceed that of all others, we must be content with the testimony of those who have, in the highest degree, illuminated the questions of decussation, and the remote origin of the optic tracts. The most advanced views are given by Stilling, who regards the corpora geniculata as only the *ganglia* of the optic nerves; and, of the latter, describes seven different sources of origin, viz.: 1, A branch from the optic thalamus, in part by means of the external geniculate body. 2, A branch from the middle of the internal geniculate body. 3, A superficial branch from the corpora quadrigemina. 4, From the crus cerebri. 5, From the tuber cinereum. 6, From the anterior perforated space. 7, From the surface of the optic thalamus.

More recently, Stilling has demonstrated the existence of a "spinal root" of the optic nerve. This root, pursuing a course backwards, proceeds from the external geniculate body in a half spiral turn, and enters, in a radiating manner, the pes pedunculi. He has traced it through the pons into the medulla oblongata. He points out how the existence of this root can explain the mysterious connection between diseases of the optic nerve and affections of the medulla. He describes, also, a second spinal root, consisting of a large number of bundles, which leave the optic tract, to reach the inner surface of the internal geniculate body, from whence they pass, also in a half spiral turn, underneath the brachium conjunctivum posticum, and join the lemniscus. Between the bundles of the latter, they can be traced to the inferior olivary body. Other bundles, which at first pursue the same course, terminate in the nucleus of the oculomotor nerve. The latter discovery is an important confirmation of the physiological desideratum, whereby the path of reflexes, passing from the *optic* nerve to the *motor* nerve of the iris, is defined. He has traced other bundles into the crus cerebelli ad corpus quadrigeminum, and from thence into the cerebellum.

In an article published in a former number of this JOURNAL, we stated that the doctrine of *total* decussation of the optic nerve fibres in the optic chiasm was proved by the "anatomy of this organ itself." This statement was based on the declarations of anatomists, especially of Biesiadecki, who distinctly asserts that "he was able to pursue every single fibre of one optic tract through the chiasma to the optic nerve of the opposite side." Now, this statement is true, or it is false; *i.e.*, *all* the optic fibres thus cross each other, or all do not. If it is true, and the same scheme obtains in every son and daughter of Adam—*anomalies excepted*—then, "what need we any further witness?" Decussation is total, and so demonstrated. But other proof is at hand. The investigations of Mandelstamm and Michel, made independently of each

other, corroborate the revelations first made by Biesiadcki. More recently, Mouillin has demonstrated the peculiar manner of their decussation; and, by a diagram (heretofore published), has clearly shown the facility with which the eye of the observer may be deceived, and be induced to regard, as direct (non-decussating) fibres, those which, in reality, decussate in the manner described. Now, here we have summoned four veracious witnesses, all of whom testify, independently, to the existence of the same fact; a fact verified by their own ocular demonstration, and through that highest authority—the anatomy of the chiasm. Now, until the credibility of these witnesses is impeached, we must accept their declarations as true.

Long before appeals to the microscope, in pathology, were as frequent and convincing as in these late years, amblyopia or blindness of one eye, besides other symptoms, was observed to be associated with and regarded as due to disease of the brain and on the *opposite* side, while hemiopia was a phenomenon of *rare* occurrence in comparison with the *frequency* of unilateral cerebral lesion. If each optic nerve is composed of two systems of fibres, viz.: decussating and non-decussating, then, lesion of either system, at its origin or in its course, would necessarily incapacitate function, and occasion hemiopia of *one* eye; a phenomenon rarely observed except as a transient affection from errors of digestion.

Van der Kolk evidently favors the doctrine of *total* decussation, for he states, "perception in the left eye takes place in the corpus quadrigeminum of the *right* side." And Charcot, though an advocate of the doctrine of semi-decussation, asserts that only the fasciculi (of the bands), which decussate in the chiasma reach their profound depths, whereas the direct fasciculi do completely decussate beyond the corpora geniculata before entering into the depth of the hemispheres. "Yet he maintains that crossed amblyopia is a consequence of lesions within the brain;" and again, "cerebral lesions of the hemispheres,



which produce hemianæsthesia, produce also crossed amblyopia," and not bi-lateral hemiopia.

We find corroboration for total decussation in clinical observation: in the amblyopia manifested in paroxysms of hysteria—hysterical hemiopia. This is one sided as is also hemianæsthesia and both upon the same side. Also in hemiplegia of the left side, presenting, besides other symptoms, partial amaurosis of the left eye and atrophy of the right optic tract (Windsor). Flourens found that destruction of either corpus quadrigeminum on one side was followed by loss of vision of the opposite side; and, removal of both by blindness. He also removed one hemisphere of the pigeon, and permanent blindness (not hemiopia) of the opposite eye resulted.

Bastian states: "The optic tract may become implicated, compressed, but the effect as a rule is defect of vision only for the eye of the opposite side."

The medical world is divided in opinion in regard to the location of the visual center. 1. Those accepting without questioning, the teachings, time-honored of our text-books, viz: locating it chiefly in the corpora geniculata and in the corpora quadrigemina. These bodies are notably the first ganglia into which the fibres of the optic tract merge, but these do not constitute their *ultimate* destination. These are but the first station in the course of the optic fasciculi on their way to *remote* parts of the encephalon—a contingent probably find in them their residence, while other bundles proceed onward probably to the angular gyrus. 2. There are others arraying themselves under the banner of Ferrier, who from experiments made in 1875, deemed himself authorized to locate the visual center in this convolution; in man, seated on the lateral surface of the posterior third of the hemisphere, at the posterior extremity of the parallel fissure, and bounded by arms extending from the bifurcation of the inter-parietal fissure. 3. Others again adopt the theory promulgated by Munk, who locates the visual center in the gray matter of the occipital lobe. Before the time of Hitzig, the observation

had often been made that vision was influenced by cerebral disease, yet he, in 1874, first designated the location and pointed out that lesion of the posterior lobe of the brain can produce blindness of the *opposite* eye.

The views of Ferrier and Munk alone do we propose to consider. The former finds confirmation of his theory in experiments chiefly made upon the monkey, by which he ascertained that the unilateral removal of the *angular gyrus* is followed by complete, but not permanent blindness of the *opposite* eye; and bilateral destruction of this part is followed by complete and permanent blindness. In regard to the *permanency* of this sequence—blindness, he has found reason to modify his views. It is in respect chiefly to the *character* of the results that we make this reference, viz., temporary blindness of the *opposite* eye, and not hemianopsia of the eye of the same side. He also ascertained that destruction of the second convolution of the parietal lobe in a cat was followed by the apparent result of complete blindness of the *opposite* eye.

Ferrier thus expresses himself in regard to the essential functions of the occipital lobes, the visual centers of Munk, viz.: "extensive lesion, or even bodily *removal* of greater portion of *one or even both occipital lobes*, cause *no impairment of vision*"—[*Brain*.] "Provided the lesion does not extend beyond the parieto-occipital sulcus"—[*Centralblatt f. N.*]; also, that "an animal can see with both eyes, if only *one* angular gyrus remains; and, still more remarkable, that *one occipital lobe* is sufficient for the purpose [Brain]. He supposes the central ganglia of the optic tract (Corp. gen.—Tub. quad.) to have such bilateral connection that they can both transmit visual impressions to either hemisphere, and that after removal of one cortical center that of the opposite hemisphere supplies its place"—[*Lon. Med. Rec.*] Dr. Jno. C. Dalton, New York, espouses the doctrine of Ferrier, and confirms his observation in regard to blindness of the right eye following excision of the angular gyrus of the left side; differing

only in this, that, in his experiments, the effects seem to have persisted for a longer period. Fürstner also corroborates the statement of Ferrier. In cases cited, in only *one* instance does Ferrier cite the occurrence of hemiopia; this result was observed by him to follow destruction of the angular gyrus and occipital lobe of one side, and this takes place towards the side opposite the lesion."

Ferrier also states, "it would appear that the fibres which pass to the cortex, in the posterior third of the internal capsule (posterior segment) are those which are specially in relation with the angular gyrus and represent the *opposite* eye, as regards those functions which are affected with hemi-anæsthesia"—[*Brain*]. Notwithstanding all this accumulated and concurrent testimony (*i.e.*), *blindness of the eye on the side opposite to that of lesion*—unwittingly rendered in confirmation of the doctrines of *total decussation*, he still unequivocally asserts that "clinical observation in man places the fact of *semi-decussation* of the optic tract beyond all doubt!" [*Brain*]. His deductions, however, be it remembered, were derived from experiments upon the monkey, and the similitude *may* be found untenable; if he shall insist, by parity of reasoning, upon like effects in man, we shall find comfort in an apt quotation from his first "Lecture on Cerebral Localization;" "Frog and pigeon philosophy has too often been the bane of clinical medicine." We, too, fear that monkey philosophy, applied as a test of clinical phenomena in man, will lose its infallibility and prove the source of equal disappointment.

3. A *third* class of practical physiologists accept the doctrine of Dr. Herman Munk, the great advocate of localization of the visual centers in the *occipital lobes*. Hestates: "a destructive lesion of one of the occipital lobes causes hemiopia, and bilateral lesions cause total blindness." Little support does *his* theory receive at the hands of Ferrier, who distinctly declares to the diametrically opposite; under which conditions "impairment of vision is inappreciable." However, Munk claims to have demonstrated

that "removal of the whole cortex of the left hemisphere of the occipal lobe was followed by a complete blindness of the right eye (confirmation of doctrine of *total decussation*), which was temporary. He denies all importance of the *angular gyri* for visual purposes. Stilling confirms the statements of Munk in regard to the importance of the occipital lobes as visual centers: "Numerous fasciculi can be seen passing from the optic thalamus into the medullary substance of the occipital lobe."

And Meynert explicitly declares: "The tractus opticus receive a great number of fibres from the occipital lobe, and the temporal lobe." To him belongs also the honor of having shown that ablation of the motor zone in dogs is followed by temporary blindness of the eye of the *opposite* side.

Prof. F. Goltz removed nearly the whole gray cerebral cortex of a dog. One year after the operation the animal moved about as usual; and there was actual proof that it received impressions through all the organs of sense. He, too, has shown that when an important part of the cerebral cortex is removed, temporary blindness of the *opposite* eye ensues. The same result was observed from similar experiments made at a much earlier period by Flourens, viz., removal of one hemisphere caused permanent blindness of the eye on the *opposite* side. It has also been demonstrated that unilateral destruction of the median or parietal portion of the external convolutions of dogs and cats produce immediate amaurosis, nearly complete of the eye of the *opposite* side, and amblyopia of the eye of the same side. These disorders are not permanent. Bilateral destruction of the same portions produces almost complete amaurosis of both eyes.

Exner believes the center of vision to be located in the first occipital convolution and states: "Lesions of this center cause ocular hallucinations or disorders of visual perception or hemianopsy."

Luciani and Tamburini come to the support of Ferrier in locating the visual centers of the monkey in the angular

gyrus, but their aid is not hearty and exclusive; and they include partially or wholly the occipital lobes. They agree with Munk in stating, "that unilateral lesion of the visual centres causes bilateral hemiopia and not crossed amblyopia." These three again "unite in locating in the angular gyrus the centers for the movements of the palpebræ, the ocular bulbs and the iris."—[ALIENIST AND NEUROLOGIST.]

"The two former found that removal of both angular gyri and both occipital lobes in a monkey permitted still a moderate recovery of sight."—[*Jour. Nerv. and Ment. Dis.*, 1881.]

Dr. Lorenzo Monti reports a case in which "the angular gyrus with the entire inferior convolution was softened, depressed and a little broken down, much eroded on its anterior part and presenting a notable excavation; as also the *second* occipital lobe in its posterior part had suffered a similar change, and yet there was no manifestation of any disturbance of the movements of the eyes, nor any dilatation of the pupils, nor want of acuity of vision."—[ALIENIST AND NEUROLOGIST.]

From what has been advanced, it is seen that flagrant discrepancies exist in the manifestation of phenomena recorded by Ferrier and by Munk. And that in view of them, the logical inference is authorized, that neither the *angular convolutions* alone, nor the *occipital lobes* alone, nor the two gyri and the two occipital lobes together are *indispensable* for vision; for these all may be removed, and yet useful vision, after variable periods be possible; while in the fact that lesion of one or more of these localities produces amblyopia or blindness of the eye of the *opposite* side, we obtain confirmation of the doctrine of *total* decussation.

We have hitherto refrained from citation of direct testimony in favor of total decussation, both because this proof we have arrayed at length in a former paper already referred to, and because we preferred to detect and elicit corroboration of this doctrine, from the declarations of those who hold to the opposite theory—*conviction by their own*

*admissions.* With singular unanimity these statements conspire in proof that unilateral cerebral lesion produces disorders of vision in the eye of the *opposite* side, amblyopia or blindness, whereas if each hemisphere gave origin to two systems of fibres destined to each optic tract, the one decussating and the other non-decussating, *bilateral hemiopia* would be the constant and inevitable results of every such lesion. Rarely, in the literature upon this subject, is the phenomenon referred to as a clinical sequence; and, even in the cases in which it has been observed, it is far from being proven that the common cause may not have extended to, and simultaneously involved, one of the lateral angles of the chiasma.

Late investigations of Gudden seem to demonstrate that the optic chiasm is not so single an organism as was formerly believed. For, beside the grand central portions, this anatomist has discovered other secondary commissures. These may possess supplemental functions for the perfection or for the conservation of vision. In *Archiv. f. Oph.*, quoted by Dr. Gradle, Gudden states: "The commissure, known under Meynert's name, is to be found in the upper (dorsal) side of the chiasm, thence following the optic tract towards the peduncle; and again, there exists (in man or mammalia) a strand of fibres on the upper (dorsal) side of the tractus opticus, in contact with, but distinct from, Meynert's commissure. The direction of the fibres is nearly transverse, and they are ultimately lost in the substance of the tuber cinereum.

\* \* \* A third commissure, called by him com-inferior, runs towards the rear from the chiasm, along the inner border of the tracts."

The prime question of decussation, therefore, is far from being satisfactorily settled; eminent anatomists, espousing either doctrine, are still arrayed against each other. Pathology, however, contributes valuable evidence for its solution; this is seen in the morphological degenerative changes that take place in the optic nerve fibres, consequent upon abolition of function, through destruction

of the globe, or from its extirpation; if these changes and the parts affected are not always constant and uniform, they will furnish, in the aggregate, an amount of accumulated data, from which the real mode of decussation will ultimately be evolved and disclosed. The testimony in favor of total decussation furnished by the case of Dr. Morgan, cannot be refuted. The brain was examined by Dr. Bastian, and by him reported: "The patient was blind in the *right* eye, almost from birth; the corresponding *optic nerve* was found to be atrophied, and, likewise, the *left* optic tract, while the optic tract of the *same* side presented a healthy appearance." Concurrent testimony is found in the case of a dog examined by Michel. This animal had been affected with malformation of the eye of the *right* side; the *right* optic nerve and *left* optic tract were found, on section, to be atrophied.

It is remarkable to what extent undue or unauthorized tenacity to preconceived notions, will obtund perception, bias the judgment and determine great obliquity of intellectual vision. Dr. Gradle cites a case reported by Mohr: "Left sided hemianopsia of the right eye, but amblyopia of the left eye. The autopsy showed two cysts on the median side of the left optic thalamus, and a tumor of the size of a walnut pressing *on the chiasm and left optic nerve.*" Dr. G. then adds: "The real importance of the case is to be sought in the complete degeneration of the left optic tract; proving that the intact temporal half of the right retina received its fibres from the optic tract of the right side," and this, as he intimates, affords a case in favor of semi-decussation. To the pathology afforded, we may give a clinical interpretation of at least equal weight in favor of the opposite doctrine; the tumor pressing upon the left optic nerve occasions "the amblyopia of the left eye," naturally enough; and the pressure on the chiasm "by the tumor, of course, at the left lateral angle exerts a lesion upon the optic nerve fibres of the tract destined to the nasal half of the retina of the right eye, incapacity

citating their functions," thus determining "left sided hemianopsia of the right eye," which is perfectly obvious. He cites, also, a case of *Hjort*, viz.: "of left sided hemianopsia of the left eye, but complete amaurosis of the right eye." In this case was found "a tuberculous tumor, of the size of a hazel nut, pressing upon the right half of the chiasm;" and another, by J. Dreschfield, "a case of carcinomatous tumor, pressing on the right side of the chiasma, and surrounding the right optic nerve, occasioned temporal hemianopsia of the left eye, and complete blindness of the right eye." Could a case, if prepared to order, be devised more replete with evidence for total decussation?

Appreciating the logical impotence of these cases, Dr. G. did not apparently feel justified in eagerly appropriating the evidence derived from them exclusively for *semi-decussation*, for he adds: "on account of the position of the tumor (in the latter case), the case is, hence, not absolutely convincing. Similar doubts are permissible in the two former cases."

*Ferrier*, in *Brain*, 1881, 459, narrates a case of paralysis from cerebral disease, in which, besides affection of speech and other symptoms, he states: "acuity of vision in left eye was normal, but, in the right, vision was dim and indistinct;" and another case, ditto. 461: "hemiplegia of the left side, and almost complete blindness of the left eye, acuity of vision in the right was normal, and so continued, while that in the left farther declined." According to the doctrine of semi-decussation, *hemipopia*, in both these cases, should have resulted. It would be difficult to find, throughout the entire range of pathology, cases that would testify more convincingly to the doctrine of *total* decussation. The testimony derived from these cases is the more potent, since they were narrated for a widely different purpose, and are detailed with that frankness and artlessness that should characterize the high priests of science in the enunciation of their investigations.



Dr. D. E. Müller, in *Arch. f. Oph.* VIII, 160, reports a most interesting case of hemiopia which we quote, not in proof of any theory of decussation, but showing the occasion and progress of a lesion and its subsidence, proved by a decline of the symptoms; later a renewal of the lesion; the consequential symptoms indicating legibly the nature of the cause, and unerringly its seat. In this case "abolition of vision commenced towards the temporal side of the right eye, and subsequently affected the temporal sight of the left, which was afterwards followed by total blindness." Under treatment vision returned, first of the visual field of the left eye towards the right, and then of the right eye towards the left. In this condition the patient remained for one and a-half years, periodical headaches supervened, especially in the forehead; and, also, for brief intervals, scintillations, tinnitus aurium and vertigo; finally, disturbances of memory and other psychical symptoms. About one year later, after a severe paroxysm of headache, coma and death ensued, three years after the time of first attack. On *post mortem* examination a hard tumor, of size and form of an apple, was found situated between the anterior lobes at the base of the brain, producing pressure upon the chiasm at the anterior angle; "temporal hemiopia was therefore the consequence." If pressure be exerted upon either lateral angle bilateral hemiopia results, and is right sided or left sided, according as the pressure is made upon the left lateral angle or the right lateral angle; if, however, pressure, by a tumor or other cause, is exerted upon the posterior angle, nasal hemiopia will be the result,—that form of hemiopia acknowledged by Von Graefe incapable of solution, on anatomical grounds, by the theory of partial decussation.

## Art. VIII.—Practical Notes Illustrative of How to Dispose of the Insane.

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SUPPLEMENTARY to our paper entitled "Problems in Psychiatry," which appeared in a preceding number of this JOURNAL, we briefly record our procedure in some of the recent cases concerning the disposition of which we have been consulted.

Having but one purpose in view, the character of the history of these cases is materially different from what it would have to be for other purposes; the purpose, among others, for example, of individual medical treatment. The record will be resumed in these pages until a wide exhibit of the mental aberrations or phases of mental disease shall have been presented in illustration.

Miss B. D., during the last two years has, at home, greatly changed in her demeanor towards her father and sister. She was a bright and ambitious school girl of fifteen, who studied hard and excessively, making rapid advances. Persisting in her studies after headache appeared, she became confused in thought, was troubled with lapses of memory, and became unequal to her tasks. Under a consciousness of her impaired and failing mental condition, she consulted a physician who was inexperienced in mental diseases, and who, after temporizing with her for several months, adopted a very harsh course of treatment, burning the scalp of the head to the bone with *potassa fusa*, and telling her she was in great danger of insanity. This intelligence from the family physician of long standing, greatly intensified the already-existing fearfulness of the girl, and the further professional

opinion that she had an encephalic abscess forming, which the cautery might draw to the surface, turned her fear into terror. This injudicious information, coupled with the excruciating pain of, and obstinate insomania following the ill-advised and barbarous therapeutic proceedings of the physician, caused this poor girl to pass from the prodromal to the defined stage of mental aberration.

Her family, finally convinced of the futility of the physician's course, and alarmed for the welfare of their child, resolved to dismiss him and consult medical men who knew enough of medicine to know that there were some things in psychiatry possibly familiar to others which he did not know, and who was honest enough to confess it, a true enough physician to ask a consultation as preliminary to his taking charge of the case.

We found the girl, at the time of our first visit last fall, in a state of excitement, somewhat sleepless, with bowels and catamenia disturbed, and extremely nervous, with morbid sensations in her head, but no antipathies to relatives at home or to medication; on the contrary, desiring it, and without defined delusions.

The course of treatment advised produced a marked improvement in her symptoms, and she was subsequently reported to us as having recovered.

In the middle of May she was again visited, and found to have periods of excitement and violent impulses, in which she would break things, saying that she "could not help it," or "did not do it;" and to have strong antipathies to her father, always disagreeing with him, and using towards him improper language without provocation. Her psychical condition is otherwise bad, she has a hallucination that her blood runs up her back into her head, she "can feel it, but don't know whether it is so or not." She says she has a dreadful back ache and an intense pain in her head, as though a nail was driven in it. The delusion possesses her, at times, that her "brain is like old rubber sunken and closed up, so that sometimes she cannot go on with thinking."

She has also the delusion that to speak to her from behind causes intense pain; but, speaking to her in this way when her attention is diverted, gives no evidence of painful impression. She will not allow the denuded portion of her head to be touched, even with water.

Her family says that her former physician said he had penetrated through the bone of the head with the cautery. She is neither constipated nor sleepless, as formerly. Many other evidences of insanity exist in this case, needless to here mention, as the minute details of treatment are not now contemplated. Sufficient of her history, however, has been given for the purpose of the present paper, which is to show only the

DISPOSITION OF THE CASE: Her antipathies and morbid impulses manifest at home, and which become latent when she is abroad, indicate removal from home. Her family is opposed to sending her to an asylum, besides, her case has become chronic, as indicated by the persistence of psychic symptoms after the constipation and insomania have disappeared, and her appetite is neither variable nor voracious, and she has gained in flesh. She is a Catholic, very fond of the Sisters of a certain Order, who invite her to visit them, and remain with them while we give her such treatment as her condition, from time to time, seems to demand. The Sisters will give her such employment as we advise, and as may prove congenial and beneficial to her.

She will visit us at our office twice or thrice a week for cephalic galvanism and other treatment; and, so long as she continues to visit us, and seems mentally diverted, tranquil and satisfied as she now appears, this arrangement will continue.

Should morbid antipathies develop under her present surroundings, or new delusions arise and persist for any considerable time, the question of transferring her to an asylum will be reconsidered, and in all probability advised.

At her last visit to us, she no longer complained of her head, and was in cheerful and contented mood, had

made herself very useful at the convent school, assisting the other young ladies in preparing their toilets for the examination, and expresses herself with much satisfaction at the unusual amount of sewing she has done there.

CASE 2.—James R., a "cutter" in a large shoe factory, is a large-framed man, father of several children, lately became a widower. He has drunk a good deal of alcoholic liquor. His ancestral history cannot be learned. He has had a former attack of temporary mental aberration, for which he had to be confined. It is not known that he ever did any violence, though he has before attempted it.

He is known not to have slept any during the past four nights. He says his bowels have not moved for four days, and pain him, which is probable, as he often involuntarily puts his hands to his abdomen, and his roommate and bed-fellow has not seen him go to stool in this time. He is too much abstracted and mentally self-introverted to pay any attention to meals, or to execute any work.

He follows constantly after his landlord, who also works in the same factory. His countenance wears an expression of timidity and fear. In every movement he betrays a dominating suspicion. He constantly watches those about him, and though extremely reticent and cautious in his movements, he whispers to his friend that his life is in peril. He cautiously communicates his condition and fears to us after we have been introduced to him, and have most patiently and unobtrusively secured his momentary confidence. After our departure, he suspects us of being a disguised detective.

DISPOSITION: The danger that this person's delusion of dread and suspicion may, at any time, result in a mental resolution of defense against imaginary foes, together with his reticence as to his purposes, his great physical strength and the need of surveillance for diagnostic purposes, and proper treatment, as well as the probable safety of others, indicate the asylum as the only proper place for him at present.

CASE 3.—Mrs. M. is the mother of six grown children, and, like the foregoing, lives in constant dread of bodily harm. She has lost, or is losing, faith in all of her children.

Midnight finds her always awake, and in fear of burglars and assassins. Her daughter-in-law, who occupies the adjoining room, is *en ciente*, and is much excited by her fears. The old lady refuses medicines after consenting to take them, and is alike intractable and filled with fears at the houses of each of her children, and each visit of the physician, or of any physician, excites a delusion of suspicion in connection with him.

Her malady is only of a few weeks duration, but she has long passed the menstrual climacteric. Her physical condition is pretty good.

The pecuniary circumstances of the family will not justify those expensive coercive measures connected with enforced alimentation, medication and travel, with adequate attendance, including a physician, which might make a few weeks delay a possibility, and immediate removal to a well-appointed hospital for the insane, remote, if possible from home, is advised.

CASE 4.—Mrs.—, is likewise an old lady, who has suddenly become deranged. She has no faith in her husband or any physician to cure her. Her ills she imagines are beyond the reach of medical aid. She has consumption and nobody can cure that. She has "heart disease and that always kills." She has no friend in the city in whom she confides—no faith in any one. "She is lost! Her husband is lost! All are lost!" From having been full of faith in God, and a devout methodist, she has lost faith in the Creator and all His works to help her. She eats little, sleeps less and is constantly moving about on her feet, exhausting herself, until she staggers as if drunk.

Consistent with her want of faith, she will take no advice from her husband, physician or friends. Attempts at medication are fruitless and efforts at control or

regulation of her exhausting movements only irritate and excite her. Her household affairs concern her no more, though she has been a careful and good housewife, and from having been a very circumspect woman, she has become regardless of the proprieties of life.

There is but one place for such a patient, namely, the hospital for the insane, among strangers, in whom she may yet develop a little faith.

There is but one plan of management that at present promises to cure, and that is *enforced alimentation, enforced medication and enforced rest*, until the danger of physical exhaustion of brain, nerves and body may pass. In such a case the nostril tube and the tranquilizing restraint bedstead are not contra indicated; on the contrary, a charitable humanity and an observant science, which can suggest no better resource in the hands of the skilled alienist, demand their use by the physician in such cases until the insanity passes away or presents other symptoms.

CASE 5.—Miss—— is a school-teacher, dependent on her own endeavors for a livelihood; her father a short time before her affliction having died insolvent, leaving to her and another sister the maintenance of an infirm mother. She has recently, within a year after a dilligent course of unremitting study and self-denying privation of recreation and a somewhat scanty dietary, been commissioned to teach. Less than a year of goaded brain-work and the over-worn and marred mental organ succumbs to insanity. It refuses to work, like an exhausted limb that cannot longer be moved. No sign of definite delusion appears. No violent impulse or speech—no outrageous word or deed—but reflection simply ceases, and no effort can elicit from the poor broken girl either word or deed. She has become a silent automaton. Moved out into the room, she stands still like a statue and looks vacantly at the wall. Led to bed, undressed and placed on her couch, she retires until taken up in the morning. Set down at table and food placed in her mouth, she eats; in like manner liquids are swallowed.

All her bodily wants are attended to by others and her sister must incite her to attend the calls of nature.

Her physician placed her in our hands as a case of hopeless dementia, and was surprised that we did not promptly assign her to an asylum. But her dementia came too sudden to be terminal or more than apparent.

Her case was one of profound *cerebrasthenia*, and, being young and of a good ancestral heritage, no grave cerebral lesion followed.

She was treated and recovered at home, and, when restored to sanity, recounted most of the incidents that transpired about her, though she had had but few reflections.

Her will had failed her, her reflective powers had become greatly impaired, but her receptive faculties retained more of their normal power than the will or the reason. She had had no delusions concerning those about her, but a vague feeling of strangeness, and apathy and powerlessness possessed her. This exhaustion saved her; her faculties rested, while nutrition went on. We assured ourself that she slept, by giving her hypnotics at night, and of her nutrition by giving her the best and most concentrated of food. The physician who gave the hopeless prognosis is dead. The patient has resumed her teaching. Five months sufficed to restore her.

Judge W. H. H., *æt.* 44; at the close of the late war, 1865, studied law, was soon admitted to the bar, and rapidly advanced in his profession to the honorable position of judge of one of the judicial circuits of this State. The responsible position imposed on him great labor and research, for he was an ambitious and upright man, anxious to be known as a correct and just judge. Long and late hours of study and ceaseless mental anxiety, connected with his vocation and the strain of numerous other business and public enterprises in which he was engaged, resulted in mental overthrow, which first displayed itself in ideas of depression concerning the welfare of his family, and in change of character and conduct



concerning his financial affairs. From having been an extremely liberal man he became, without financial reversal or other real cause, quite penurious and calculating. This altered mental condition soon changed into remarkable and exceptional satisfaction with his affairs and surroundings.

He took frequent occasions in the most *mal apropos* places, and on the most inopportune occasions, to refer to his wife as the best wife in the world, his children as the finest, and himself as feeling "splendid."

Self-satisfaction was revealed in every facial and oral expression, and all his mental actions betrayed a hopefulness and exaltation of feeling in strange contrast with his labored and mumbling articulation, accelerated pulse, shuffling gait, occasional epileptoid seizures, and obliviousness to the fact that his family physician had pronounced him a fit subject for the insane asylum, and a brother judge was then discharging his judicial functions on the bench.

Judge H. came under treatment October 15th, 1880, and died early in the following August, a little within a year of the inception of his malady. The treatment employed consisted mainly of general galvanism, daily out-door passive recreation under due surveillance, digitalis, the ammonium bromide (occasionally chloral) and tonics.

Recognizing the general paralytic and harmless character of this patient's malady, his yielding disposition, and foreseeing his probable early demise, we dissuaded his friends from committing him to an asylum. The sequel, as it will in most all similar cases, verified the wisdom of our advice. He died at home, demented.

## Art. IX.—Rest in Nervous Diseases.\*

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By JOHN CURWEN, M. D., Harrisburg, Penn.

REST is that for which everyone labors and longs with eager desire. It is the relief from exhausting exercise of body, and harassing anxiety of mind. It is the bright spot in the near or distant future, which hope leads everyone to keep the eyes and the heart's desires intently and earnestly fixed upon; and the eager striving, the arduous duty, the lengthened, tedious labor, and the exhausting fatigue, are all borne patiently in the confident expectation that the period of rest will soon arrive, and relief will then be had. Though men fail fully to realize and enjoy what is both a permission and a command, they never relinquish the idea that, in some manner, vague and undefined it may be, their constant efforts will somehow enable them to enjoy it.

Medically speaking, rest is the change from a condition of actual effort to one of calm and quiet, the demand of the bodily organs for relief from the constant strain put upon them, of the mental power and nervous system, for a change from a state of steady pressure and prolonged tension to complete relaxation, in order that the physiological and psychical acts may all be normally performed, and the whole frame be made to obey the ordained laws of its being in the requisite renewal and recuperation. How shall we turn this cherished desire to our aid in the relief from suffering and disease in those who labor under those most distressing forms of disease, characterized by a condition so constantly and distressingly present the very reverse of what we are considering?

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\* Read before the State Medical Society of Pennsylvania, at its meeting in Lancaster, Penn., May 12, 1881.

The recollection of some plain physiological facts will materially assist us in the elucidation of this problem.

Healthy innervation depends on full and normal nutrition by those elements which are essential to the proper growth and maintenance of every part of the system; and that everything in the form of food or other indulgence which interferes with this should be relinquished; that labor and exercise of every kind involve a waste of tissue and an expenditure of nerve power in proportion to the efforts made; that, following every effort, there will be a relaxation and a demand for a period in which to recuperate, or, to express it in other terms demanded by the recognized conditions of the nervous system, for every period of exaltation or excitement, there will be a corresponding period of depression.

In order more clearly and definitely to bring forward the points which seem to require special elucidation in this connection, it is necessary to take up the subjects in the order named, and endeavor to state clearly how the morbid conditions may be induced and then give such special indications as may appear to be required.

Men violate the rules of healthy nutrition by the constant excess to which they are addicted in eating and drinking. The food is most generally highly seasoned with the different stimulating condiments, and they think to promote the more ready digestion of such food by the free use of stimulating drinks. This constant and unusual stimulation, together with great irregularity in eating, must in time produce the opposite state of depression as a permanent condition; because after each stimulation there will be a degree of depression, and this condition, renewed several times each day, must, as a matter of course, at no distant day induce a loss of tone and nervous energy which will severely affect the digestive powers, or the morbid action may be transferred to some other organ, which will even more seriously influence the nervous system.

Then there is an opposite condition where from design, disease or inability to procure the proper food, the nutrition has been seriously impaired, and a correspondingly depressed state of the nervous system produced. Akin to the conditions above stated will be that caused by the action—sudden or prolonged—of grief or any of the depressing emotions or malevolent passions.

The constant and, in very many cases, the excessive use of tobacco in chewing and smoking has a decided influence in altering the tone of the nervous system, and, in very many cases, so interfering with its normal action as to induce a series of disorders varying in kind and degree, but all more or less detrimental to healthy action. Add to these the continuous excitement of pleasure or business, or both conjoined, to which so large a number are assiduously devoted, and it will be seen that an element of disorder is steadily acting which must sooner or later tell with decided force on some part of the nervous organization.

It will be recollected that every action, physical and mental, involves just such a waste of tissue and expenditure of nerve power as will be needed to effect that action, and that when the system is forced to a greater degree of expenditure than can readily be regained by the ordinary mode of recuperation, an exhaustion of the forces will be experienced, which must have an injurious influence, particularly should this exhaustion be continued for an undue period.

The reciprocal influence of the nervous system on the circulation, and of the circulation on the nervous system is such that anything which interferes with the steady and regular action of one on the other, will soon be manifest in the abnormal action or condition of one or both, and these again act on nutrition as nutrition influences them. The normal action and interaction of all these functions is absolutely necessary to the maintenance of healthy conditions, and the point to be insisted on in this.

connection is the urgent need of persistent effort to obtain and retain that healthy action.

It is only repeating a truism to affirm that we live in an age of great and earnest excitement, which ramifies in varying degrees through every part of the social fabric, and no one can fail to notice the influence of this excitement on the physical and mental status of different classes; and the tendency appears to be to an increase rather than to a diminution or moderation in the causes and incidents of this high pressure.

There is a constant forgetfulness and violation of that grand ordinance that the day is ordained for labor and the night for rest, and that the penalty for violation will be as surely, though it may be more slowly, visited in some form as that a man will be burned if he takes fire into his bosom. Each man thinks he enjoys an exemption in his own case from the penalty, and he goes forward with headlong speed, not heeding admonitions until his brain, his heart or some other organ shows such manifest symptoms of disease that he is compelled to lay by often in the very meridian of his days.

No branch of preventive medicine seems to be in greater need of earnest and persistent cultivation than that which teaches men everywhere that they must obey the laws of action and rest, that if they labor with the brain or the arms and hands, they equally require a degree of rest corresponding to the amount of labor; that a given number of hours (not less than six) must be given to sleep each night, that there must be regularity in everything, labor, sleep, food, rest to recuperate the waste and exhaustion of nerve power, and that, unless these are obtained with the uniformity which characterizes all the actions of the animal economy there must be disease.

The manner in which men endeavor to obtain rest from pressing cares and duties seems to be in urgent need of careful revision and correction. They work on for ten or eleven months of the year, often under great pressure and excitement most of the time, and then start

off for a rest or vacation, and while the scene may be changed and the character of the labor, too often the vacation is spent in exhausting travel or more exhausting excitement or indulgence, and they return to their regular life scarcely able to give that steady attention which their duties demand. Than this, it is strongly insisted, there is a much better way. In place of waiting until one is nearly exhausted, physically or mentally, it is infinitely better to take a certain amount of rest regularly and at stated intervals so as to keep the system always in good working order. Every one can so arrange his business as to spend his evenings with his family and enjoy the delights and freedom of social and family intercourse, which are part of that divine ordination designed for man's greatest good, and by these means put away for the time the harassing anxieties of business which press many men so intently as to break them down.

Then, in addition to the relaxation enjoyed in the family, let each man arrange for the unrestricted use of half a day, or much better of a whole day, a working day, in each week or fortnight at the furthest, on which no demands of business shall intrude, and give that time sacredly to rest and recreation of such a character as will best conduce to the relief of the mind from all care and recuperation of the body from too great labor.

It is a good rule for every man to have some subject apart from his regular business to which he can give his time and thought, and then cultivate his acquaintance with some branch of literature, or natural science, on the principle that change of occupation is rest; but moderation must be exercised in this as in every other pursuit.

Men will insist that they cannot spare that amount of time, but it is infinitely better to take the time; make it a matter of duty to take it regularly, duty to themselves, duty to their families and duty to society, and they will find the gain in the greater ability to attend to their duties, the continuance of good health, the freedom from exhaustion, and all the other troubles of mind and

body which invariably come on those who press forward so eagerly in the race for riches and honors that they either fall exhausted in the race, or are so broken down physically and mentally that they cannot really enjoy the coveted object when attained.

But since men will venture the risk of the violation of the laws which regulate every action of the human economy, we must assume that disease will follow, and to the relief and cure of that we must give our most faithful endeavors. Reasoning from the causes which are known to lead to the different diseases of the nervous system, it will readily be inferred that the great majority of the cases will be of an asthenic type, and, therefore, requiring not only careful and cautious management, but such a course of medical and hygienic treatment as will most readily aid in restoring the system to its normal action.

In a system exhausted from any cause the obvious indication is rest to enable the part most affected to regain its normal condition, and the length and degree of rest will depend on the extent and character of the exhaustion and the constitution of the individual.

What may be amply sufficient in one case may not at all meet the requirements of another, and on this account no inflexible rule can be laid down to be followed unerringly in every case, but each must be governed by conditions and qualifications incident to the individual and to the special character of the affection. The disturbance in each case must be carefully studied in its antecedents as well as its present accessories, and the kind of rest and the amount of exercise and other indications of treatment must be determined after such an examination as will serve to bring into clear view all the points needed for a careful decision.

A somewhat extended observation has led to the conclusion that sufficient caution is not generally practiced in the directions given to those suffering from nervous diseases in regard to exercise. The very indefinite direction

is given to take exercise as often and as much as the patient can; and the patient, acting under the conviction that the more exercise the sooner the strength will be regained, each day indulges in an amount of exercise which is beyond the point which his system will properly bear, and is constantly wondering why he does not gain strength, while in reality each day he is drawing heavily on his principle in place of using only the interest of that sum. For this reason it cannot be too urgently impressed on the physician that he should give specific and very definite directions as to the exact amount and kind of exercise to be taken, not leaving to the patient the decision of that point, but as carefully directing that as the medicine he prescribes. It is far better that the patient rest too much than not enough, though it is a matter for serious consideration whether in the great majority of nervous diseases too much repose can be enjoined.

Absolute rest for a time will be demanded in the earlier stages of nearly all such diseases, and graduated rest in the later stages during convalescence, and when health appears to be entirely restored the caution to be moderate in exercise and work will not come amiss.

There are two conditions of nervous disease which seem to require somewhat different if not at times almost opposite forms of rest to be enjoined. The first, where the mind is to a greater or less degree affected; and the other, where the disease is confined to the spinal system or to that of organic life.

When the mind is disturbed rest may come to it in many cases from absolute inaction in the direction of its previous occupation and a diversion to something of another kind, or it may need to have that character of repose which forbids all active thought and only amusement with the derivative principle of moderate bodily exercise for short periods of time, not carried to the extent of fatigue, but sufficient to produce healthy stimulation.



In acute mania the patient is in constant movement, with the mind in the majority of cases in great commotion, with great volubility of tongue and exercise of voice. In all such cases—from the milder forms to the most extravagant—where restlessness of body and volubility of tongue are excessive the primary and urgent demand is for rest, in some cases absolute and in others moderate, to be in each case decided by the special symptoms; and this rest must be procured either by chemical or mechanical restraint or the patient will soon be exhausted and die.

In cases of melancholy the physical forces are generally below par, and caution and prudence must be practiced in all directions given in regard to bodily exercise. In all these cases the reciprocal influence of mind and body must be kept steadily in view, so that one may not be injuriously affected by the other. When the disease affects simply the bodily conditions and the mind is not really involved, the degree of rest enjoined and the duration of that rest must be governed by the peculiar character of the disease.

Some diseases of the nervous system are much more exhausting than others, and, therefore, more rest must be enjoined; and, in others, the rest and the exercise must be so carefully proportioned and regulated that neither shall have the effect of retarding the progress towards restoration. Special rules for special cases cannot be laid down in a general essay limited in its length, but it will always be safest to err on the side of insisting on rest to a much greater extent than is ordinarily done.

A gentleman threatened with disease of the brain, the impending condition induced by a course of rather irregular living and indulgence carried on while assiduously devoted to the practice of a profession requiring active exercise of the mind and close attention to the duties necessarily involved, was advised to take physical exercise daily in order to strengthen his system, and each day he could be seen taking long walks, which any one familiar

with diseases of the brain and nervous system could readily see by the peculiar gait and porte of the body were acting as a heavy drain on his nervous organization. While there appeared to be some improvement temporarily in the physical condition, there was a steady deterioration in the nervous system, which might readily have been inferred from the excessive drain on the nervous power, manifested later by the paralytic state of the lower extremities with gradual failure of the brain. This deterioration could have been held in abeyance for a much longer period if more caution had been used in the way in which the exercise was taken and by avoiding the strain induced by such exercise.

If the manner of supply of blood to the lower spinal cord be carefully examined, it will be ascertained that, when the brain is kept in active exercise, it has a tendency to draw off the supply from the lumbar and sacral regions of the cord, and on that account great caution must be used in the directions given as to the amount of walking taken by such individuals; and we learn also the reason why so much difficulty is often experienced from pain in the back and the feebleness of the lower limbs from great and long-continued exertion. The obvious remedy for this is a graduated amount of exercise which shall give play to all the organs and not draw too heavily on that portion which is apt to suffer soonest.\*

It cannot be too assiduously inculcated that active brain-workers should take each day a certain amount of physical exercise, or they will withdraw, by the increased demand for the supply to the brain, that portion of the blood which is so needful for due normal nutrition of the lower portion of the cord, and by this means induce such a debility of that part as to give rise to serious inconvenience if not to active disease. But while urging such exercise, caution must, at the same time, be given that it must not be of that kind which will draw too heavily on the resources of a part already weakened by

\* See Moxon's Croonian lectures, for 1880, "On the Influence of the Circulation on the Nervous System."

a deficient supply of blood. In what way the exercise can best be taken must be determined by the character, circumstances and special occupation of the individual.

A large number of females of different ages and conditions of life suffer constantly from languor and debility, which they cannot explain or account for. A careful inquiry into their physical condition will reveal that their nervous system has been overtaxed in some way, or they have suffered from some constitutional trouble which has much impaired the healthy action of the nervous powers. In too many of these cases exercise is recommended, and they set about it vigorously, in the hope that they will in this way regain their strength; but they soon find that they are more uncomfortable in place of being better. A rigid scrutiny into their habits and manner of life, and also into their physical state, will make known the fact that, back of all these conditions, lies a state of some one or more of the bodily organs which require special care and treatment, and when that treatment is instituted and proper hygienic measures insisted on and practiced a marked improvement will be manifest. Observation has long since compelled the conviction that absolute rest in the recumbent position for a portion of each day and a very moderate, regulated degree of exercise are absolutely necessary for restoration in such cases. But with these must be employed such medical treatment as will have the effect of strengthening the nervous system, removing, as much as possible, any diseased or disordered state, and that amount of healthy, nutritious food which the system will, on trial, be found best able to assimilate. Nothing must be taken for granted, but every organ must be carefully examined to ascertain its exact condition so far as that can possibly be learned, and every irregular or diseased act must be met in the manner best calculated to restore it to its normal action; and among these will be found of most essential service calmness and composure of mind and repose of body.

How best to obtain these will often tax the ingenuity of the physician to the utmost, but he must study all the varying phases most diligently in order to know best how to adopt the means to the end, and he will most generally be amply rewarded for his efforts by the improvement of the patient and steady progress toward restoration, and in the esteem and confidence of the friends and by the increased opportunities afforded for the display of his talents in other cases.

While thus urging rest as a general direction, it is necessary that attention be given to secure rest to special organs from special causes of excitement or exercise. The organ may require relief from over-exertion in the direction of too great labor thrown on it, or from the irritable condition arising from deficient or inappropriate nutrition, and in either case the nervous organism will be so affected as to require active interference in the direction of rest and freedom from the labored performance of its appropriate functions.

Avoid stimulants as much as possible and feel your way cautiously and gently to the employment of those means which are found on trial to be most successful in relieving the disordered state, and among these will be found those preparations of iron which seem to have such a decided effect on the nervous system. Give the means used a fair trial and do not change so frequently that no time will be given to ascertain what effect the medicine used may really have produced.

To indicate the exact manner in which the disordered functions may be rectified would require a special inquiry into a variety of actions and reactions which time will not allow, but which can be most readily determined by a thorough examination into the causes which may have led to such condition. There is much less likelihood of erring in the direction of too much rest than of too little, and to take the mean between the extremes and indicate in each case what will most effectually secure the desired end will give ample employment to all the

powers of the physician, who is anxious to remove most completely that most troublesome and distressing of all disorders—an impaired and irregularly acting nervous organization.

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## Art X—On Ambitious Delirium in the Local Organic Affections of the Brain and Spinal Cord\*

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*By M. BAILLARGER.*

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Translated by E. M. NELSON, M. D., St. Louis.

**M.** Colin, Professor at Val-de-Grâce, published, in 1870, a short note upon "General Paralysis of the Insane, Consecutive to Local Lesions of the Brain, Specially to Cerebral Hemorrhage."

The author, in the space of a few months, had seen come into his service three hemiplegics, in whom were developed the symptoms of general paralysis in the outset. In one of the patients, the delirious conceptions were of a hypochondriac nature; both the others had the ambitious delirium which is so often observed at the commencement and during the course of general paralysis. The note contains only a single observation which is not accompanied by an autopsy.

M. Colin quoted, in connection with these three facts, the following passage from the work of Marcé:

"An anterior lesion of the brain, like apoplexy or softening, may become the starting point of general paralysis; the lesion, at first limited to the nervous centers, extends consecutively to the cortical layer, and

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\* *Annales Médico Psychologique.*

upon an incomplete hemiplegia of ancient date, there are implanted all the symptoms of paralytic madness; in these cases, at the same time with the central cicatrix, we find, on autopsy, the softening of the cortical layer, with adhesions to the meninges."

Marcé was able to add that, besides the apoplexy and the softening, one may see still general paralysis occur with tumors of the brain of different nature.

These secondary general paralyzes are less rare still in patients affected with disease of the spine, and especially with locomotor ataxy.

It is very true, as Marcé has said, that, in all these cases, we find, on autopsy, besides the local lesions which have preceded the general paralysis, the ordinary lesions of this disease; opacity and thickening of the membranes, adhesions to the cortical layer, and softening of that layer. However, besides these secondary inflammatory processes, there is another class of facts which appears to me to deserve to be studied separately.

It occurs sometimes in patients affected with local lesions of the brain, or with disease of the spine, that the "delirium of grandeur," with the characteristics which it presents in the primitive general paralyzes, can continue several months, a year, and even more, without one finding, at the autopsy, lesions of chronic periencephalitis. This *ambitious delirium*, preceded sometimes by cerebral congestion, accompanied by lesions of movement due to local alterations of the brain or to disease of the cord, leads one to believe sometimes in the commencement simply of a general paralysis, sometimes in the existence of a confirmed general paralysis, and we are astonished to see the diagnosis overturned by the autopsy.

These facts raise interesting physiological and pathological questions; and I have thought it useful to bring together here, some observations with reference to which I shall reproduce only the principal characteristics.

OBSERVATION 1.—Mrs. H., aged 60 years, was tormented for a long time with quite severe headaches,

when, three years before her entrance into Salpêtrière, June 9th, 1860, she suddenly lost consciousness; there persisted from this attack a paralysis of the left side of the face; a paralysis which, however, disappeared gradually in the space of a month. Two years later, a second similar attack, affecting likewise the left side; the accidents completely disappeared after fifteen days. Since these attacks and in the interval between them, her speech remained unaffected, but it was remarked that the patient was more excitable, and that she was more difficult to care for.

Three months ago, a new attack of paralysis much more severe than the preceding. Mrs. H. fell on the street and was taken home unconscious and with a left hemiplegia. Following this attack, there was an outbreak of *ambitious delirium*, accompanied by agitation. The patient was ruled by ideas of magnificence; she believed herself rich and pretended to belong to the imperial household; at the same time there was evidence of impairment of intelligence. Her speech was embarrassed; but, little by little, it became free, and the hemiplegia also disappeared. It was then she received at Salpêtrière, twenty days after her admission, a fourth attack, affecting again the left side. Some days afterwards the speech again became free, and the hemiplegia had disappeared. The ideas of grandeur persisted. The patient pretended that all the merchandise of Paris belonged to her. She had very fine furniture and expected a very large inheritance from her family. Besides there was excitement, loquacity, incoherence.

July 31, 1860, this woman became suddenly blind; she no more replied to questions addressed to her; she confined herself to repeating these questions. At the end of twenty-four hours these accidents disappeared and vision was restored.

September 6th, there was a loss of consciousness, convulsive movements followed by a comatose state. On the 7th, the convulsive attacks were reproduced with several recurrences. The patient died the third day.

AUTOPSY.—The internal face of the dura-mater was coated with a false membrane, thin and specked with blood. The arachnoid over both hemispheres was thin and without a trace of opacity. The pia-mater over the left hemisphere presented some large veins engorged with blood; it was raised very easily, and there was no trace of adhesions.

Over the right hemisphere there were no traces of congestion, and the membranes were raised very easily everywhere except at one point, where there existed an adhesion very limited, but which resembled in no respect those which are observed in general paralysis. This point had been sometime the site of a slight hemorrhage.

In the left hemisphere was found a recent hemorrhage, which penetrated into the ventricle; the clot weighed 35 grammes (231.48 grains.)

The right hemisphere contained three old hemorrhagic cavities, all situated in the middle lobe behind the fissure of Sylvius. The other viscera were not examined.

OBSERVATION 2.<sup>1</sup>—M. George, a teacher, aged forty-six years, of a sanguine temperament, has always been quick and disposed to anger. For nearly eleven years he has complained almost every month of pains which, starting from the tibio-tarsal articulations, extended up into the legs and stopped in the thighs.

At forty-four years, as he was stepping into a bath, he found it impossible to articulate a single word. A few minutes later he fell in the street stricken with apoplexy.

There was impossibility of speech, right hemiplegia. Intelligence seemed abolished. At the end of three months the possibility of pronouncing badly or well a certain number of words. Little by little intellectual activity was re-established, and after six months M. G. again undertook to give lessons to scholars. The hemiplegia always persisted in a very marked degree.

1. Calmeil. *Traité des Maladies Inflammatoires du Cerveau*, Paris, 1859; t. II, p. 614.



Two years after his first attack there was a new stroke. The patient came to himself almost immediately. Only the difficulty of pronunciation was increased. Some hours later the patient was the subject of an extreme excitement which was manifested by cries, by songs, by an exuberance of ideas, which were, in general, unreasonable and which dwelt principally upon ambitious subjects. He was at the very height of happiness, and had nothing more to desire, he said. This delirium lasted for six months, when the patient fell, struck with a third attack of apoplexy. Death supervened before the close of the day.

AUTOPSY.—The dura-mater was healthy; the arachnoid in no respect departed from the normal condition; the pia-mater was neither red nor thickened. A punctated appearance was noted, extending to an excess of injection in the different layers of cortical gray substance which corresponded to the upper region of each anterior lobe of the brain.

The examination of the two cerebral hemispheres disclosed three spaces hung with cellular membranes; one was situated in left hemisphere between the thalamus opticus and the corpus striatum, and was large enough to contain a walnut; the other two were behind on the right and left, in the thickness of each posterior cerebral lobe. These spaces were almost obliterated. The septum lucidum was completely diffuent. The pia-mater of the cerebellum, both substances of the cerebellum, were red and injected. It is not necessary to remark that M. Calmeil signalizes no trace of adhesions. As we have just seen, moreover, the membranes were healthy and the cortical layer not at all softened.

OBSERVATION 3.\*—M. L . . , officer, aged 38 years, had, in December, 1869, a first attack of congestion, and a second in the middle of the month of January, 1870. Following this second attack, there was hemiplegia. The patient, placed at Val-de-Grace, offered "the characteristic

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\* Foville, *Annales Medico Psychologiques*.

phenomena of paralytic dementia;" ideas of grandeur limited, as yet, but characteristic. The patient wished to adorn his garden with monuments, a chapel, a dance-hall, a restaurant; he had an exaggerated idea of his physical power. Removed from the hospital by his family, he committed some obscene acts, and the ambitious delirium became pronounced. He believed himself very rich. He wanted to build a church, and to give considerable sums for this work and others. He entered at Charenton, July 10th, 1870.

M. L. seemed very much excited; he walked without cessation, spoke of magnificent views, said that he was very rich, that a carriage constantly awaited him, that this carriage cost him two hundred francs per day. At certain moments there was difficulty of speech. The progress of dementia was very rapid, and, by August the 15th, the intellect was quite stupefied. The patient died November 1st. The delirium of grandeur, with symptoms of dementia, had lasted seven or eight months; it had been replaced by a complete dementia, and the disease had lasted ten months.

M. Foville expected to find, besides the local lesion, the ordinary lesions of chronic periencephalitis. Now the brain, examined with care, presented none of the alterations of paralytic insanity.

"The meninges were clear and thin; there was neither opacity nor thickening, neither marked injection nor ecchymoses. Everywhere they were easily raised, separating, without any resistance, from the cortical substance, to which they had no adhesions, except at a limited point, of which we will speak\*. The surface of the convolutions was healthy, rather pale than red, of a uniformly normal consistence; no trace of superficial ulceration; on scraping it with the scalpel, no pellicle was detached, no granular softening of the middle layer of gray substance."

Similar facts to those I have just recited are observed in diseases of the spine. I will cite first that which seems

\* This adhesion had nothing in common with those which are found in general paralysis.

to me to be most remarkable; it was published by M. Renault, du Motey, in the *Archives Cliniques des Maladies Mentales*, t. i., p. 385.

OBSERVATION 4.—M. X—, a captain, aged 49 years, had had, two or three years before his entrance into the asylum of Maréville, several attacks of apoplexy followed by hemiplegia which had little by little disappeared, leaving traces only upon the face. Later, he was affected with paraplegia which persisted. It was upon these conditions that there developed in him quite an exuberant delirium of grandeur, accompanied by a slight difficulty of speech. He formed the most gigantic plans; he inherited three millions of Spanish doubloons; he was the overseer of the emperor, and called to render the state the greatest services; he believed himself very robust, and claimed never to have been better. He succumbed at the end of thirteen months, after having passed through the several stages of paralytic dementia.

M. Renault du Motey expected to find, at autopsy, the lesions common in chronic periencephalitis, and perhaps the traces of an ancient cerebral hemorrhage. To his great astonishment he found that none of this existed, and could ascertain only the existence of a softening of the spinal cord. The arachnoid was transparent, perfectly healthy; the pia-mater was injected. The meninges had contracted no adhesions at any point to the cerebral hemisphere. The layer of pia-mater, specially free, was separated with the greatest facility from the convolutions and anfractuositities, whose surface remained smooth, polished, of a normal color. It was the same with the cerebellum. The gray and white substances of the brain were slightly injected, but their cohesion was normal and they could not be separated from each other.

Examination of the cord revealed a softening which occupied the lower third and a part of the middle third.

OBSERVATION 5.—A man of forty-five having made excessive use of alcoholic liquors. Symptoms of ataxia extending back for four years. Following two attacks of

vertigo, a change of character, irritability, violence, erotic thoughts. Ambitious delirium appeared and increased daily. The patient felt perfectly happy, was full of talent; made the most grandiose plans for the baptism of his child; would invite to the ceremony all the bankers and princes. He said that he had so many ideas that the size of his head increased. He was the greatest man in the state, the finest musician. He had wagon loads of money; he was going to marry the princess Victoria, etc.

During his stay in the asylum, there was an epileptiform attack; no hesitation of speech, but the patient sometimes paused as if his thoughts failed him. This man became ill-conditioned and emaciated, in spite of an extraordinary appetite and abundant repasts. There was little sleep, diarrhœa, involuntary stools. They were often obliged to keep him fastened in a chair with a camisole; there were very marked signs of dementia.

The patient entered the clinique April 3d, 1858; was transferred August 29th to the incurables, and died in November, 1861. Four years had passed, therefore, since the invasion of the delirium. The results of the autopsy were the following:

The pia-mater, little thickened, was especially easy to detach from the cortical layer, which was pale and of normal consistence. The lateral ventricles were greatly dilated and full of serosity. The ependyma was moderately thickened. The central parts of the brain were a little less consistent than in a normal state. In the spinal cord there were the ordinary lesions of locomotor ataxy.

Dr. Plaxton has published two observations under the following title:

*Two cases of locomotor ataxy with psychical symptoms simulating those of general paralysis.* I shall cite here only the first, the second not appearing to me sufficiently convincing for the demonstration of the fact which is the object of this study.

OBSERVATION 6.—A sculptor, aged forty-seven years, ataxic for nine years, having never committed any

excesses, became utterly incompetent for his work, and believed himself as capable as formerly. Besides, he had erotic tendencies, of which he had never given the least sign; improprieties toward women. Attempted to seduce his niece, and was astonished at the remonstrances which were made, appearing to have no consciousness of these acts. He became negligent and slovenly in his bearing.

On his entrance to the asylum, November 3d, 1875, he had not ambitious delirium, but the ideas of grandeur were not long in appearing. The patient claimed to have riches and power superior to that of the genie of Aladdin's lamp. After a certain time he became comparatively rational and recognized the absurdity of his ideas; but soon the former state reappeared. Under the influence of his intellectual disturbances, he attempted to fix the fantastic productions of his imagination—a palace of marble adorned with sculptures and paintings, fine temples of art, etc. He had still his erotic tendencies. During his stay at the asylum, there were observed in him several alterations of exaltation and return to reason.

At the commencement of October, 1877, the ataxy had not progressed much; but, at this epoch, the symptoms were aggravated. Besides the patient had delirious conceptions of a hypochondriac nature: he claimed that his legs were filled with wind and excrement; he had fear of poisoning, refused food. Agitation, continued terrors, insomnia, extremely acute pain. Suddenly there came on acute paralysis of legs and arms, impossibility of articulating a word. Death took place December 26, 1877. The ataxy had lasted eleven years, and the delirium two years. The patient had had ambitious delirium and, at the end, melancholic and hypochondriac delirium. Dr. Plaxton does not mention embarrassment of speech, but he cites with reason, this observation as an example of psychic troubles simulating those of general paralysis.

Here are the results of the autopsy: A little atrophy of the frontal and parietal convolutions. The pia-mater

which covers them was slightly thickened, but presented *no trace of adhesion to the subjacent cortical substance*. The brain, on the whole, is more consistent than ordinary. *Neither the cortical substance nor the white substance presented anything abnormal to the naked eye*, but everywhere the arterioles were more apparent. Microscopic examination disclosed the ordinary lesions of locomotor ataxy in all the extent of the cord, but in a fashion much more pronounced in the lumbar region.

[ *To be Continued.* ]

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## Art. XI.—A Case of Consciousness During an Epileptic Seizure.

By C. W. CLARK, M. D.,

ASSISTANT SUPERINTENDENT OF THE ASYLUM FOR THE INSANE,  
HAMILTON, ONTARIO.

**J.** E. C., male, aged 42; very strong, healthy man. Has been an epileptic for more than thirty years, and an inmate of the asylum for two years. Before and after epileptoid seizures, is violent and dangerous. Had been free from an attack for nearly a month when the one reported upon took place. On passing through the wards on my "morning round," my attention was drawn to the patient, who seemed to be in a very peculiar condition. He was seated in a chair, and *appeared* to be perfectly unconscious. His muscular system was under no control, and he was suffering from clonic convulsions, which his attendant informed me had been kept up all morning (this was about eleven A. M.). The patient was placed in a bed and visited again in the afternoon. The convulsions still continued, with the difference that some

of them were not tonic in character. The violent muscular contractions caused him to grind his teeth, clench his hands, etc. The face was congested. There was no doubt about the seizure being *epileptic*, but the form of convulsion was so remarkable and unusual that the patient was visited many times during the day. The spasms ceased in the evening. Next morning the patient was worse, and refused food. In two days he went about as usual. Not long after that he came to me and asked if I thought he had been suffering from another attack of epilepsy. I said he had. He then told me that he was conscious during the seizure, and, to prove his assertion, detailed conversations which I had held with the attendant at the time of the attack. As he repeated correctly what had been said, and described accurately the positions we had stood in, there could be no doubt in regard to his consciousness during the seizure.

As might have been expected, the patient's muscles were very sore for some days after the attack.

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## EXTRACTS FROM LETTERS AND ANSWERS TO SAME.

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EXCESSIVE UNILATERAL PERSPIRATION.—Dr. Willis King, President of the Missouri State Medical Association, communicates, from Sedalia, Mo., May 22d, 1881, the following, and asks for advice:

"I have a man whose 'sweat centers' are disturbed. He came to me several months ago. He is a small, withy fellow, married, and is about 36 years old. Has never been sick much. Was never robust, but has always been tough. Has been many years a clerk in a store, very much confined. Muscular system reduced. Was complaining (six months ago) with neuralgic pains in chest—more prominent on right side. Pain in right arm,

and little finger of right hand, and index finger of left hand. He quit the store, and I gave him some tonic treatment. He took exercise, run about and got much better. He has always been a great sweater—sweated during the cold weather last winter like a harvest hand."

"On yesterday he came to me with a new phase of the trouble: The left side of his face sweats, and the right side does not. He now has a very uncomfortable, burning sensation just above the right elbow, and the pain in the right little finger is increased. When sweating profusely on left side of the face, the right is dry."

*Answer.*—We recommend rest, recreation and baths, descending galvanism from vertex down through the medulla; pilocarpine and arsenic, hypodermically, iron and other nerve tonics, preferring the muriated tincture, glycerine and Fowler's Solution.

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Dr. J. Hawley-Smith, of Wentworth, New South Wales, Australia, asks:

"If life can persist seven days after rupture of the spinal cord, or how can seven days' duration of life be accounted for in a subject who, thrown from a horse, was, at his death, seven days after the accident found to have ruptured the cord? I may add that sensibility, but not circulation, was entirely extinct in the lower half of the body immediately after the accident."

*Answer.*—Life can persist seven days after rupture of the cord, as this case illustrates, especially if the injury be low down, as it apparently was in the case detailed.

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## SELECTIONS.

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HYPNOTIC ACTION—HYPER-EXCITABILITY—MUSCULAR HYPNOTISM—HEMI-CEREBRAL HYPNOTISM. *By Dr. E. Chambard, Chef du Laboratoire de la Clinique des Maladies Mentales, Paris.*

The history of *Somnambulism* is that of the fluctuation of the human mind. Alternately considered as a miracle, a mysterious force, a tissue of deceptions, this neurosis has at last entered, after so many vicissitudes, into the period of true scientific studies, and tends to conquer a place in the grand edifice which is being raised to the physiology and pathology of the nervous system. \* \*

The *renaissance* of the studies on somnambulism has begun with the celebrated memoir of *Braid*, soon followed by the works and observations of *Velpeau*, *Demarquay* and *Broca*; then by the first researches of *Baillarger*, *Maury*, *Menet* and *Azam*, but especially by *Richet*, and the series of lectures of *Heidenhaim* of Breslau.

We design establishing the principal results reached by recent observations. We will treat only of experimental hypnotism, and review the different methods which are apt to produce artificial somnambulism—hypnogenic action; and two of the most interesting and most novel phenomena which characterize certain degrees of that condition—the hyper-excitability of muscles, and the unilateral or hemi-cerebral hypnotism.

General synoptic table of hypnogenic actions which have hitherto been studied:

I. The mixed, empirical or magnetic process.

II. The simple or analytical process.

1. *Psychical actions.* *A*, effective order—*a*, faith, expectant attention; *b*, emotions and moral impressions, expressive look. *B*, intellectual order—*a*, intellectual inertia; *b*, intellectual fatigue.

2. *Sensorial actions.* *A*, suppression of sensorial excitement, darkness or simple closure of the eyes. *B*, monotonous, feeble, repeated sensorial excitement—*a*, sight, fixation upon one object; *b*, hearing—sound or noise, watch or tuning fork; *c*, touch—contact, pressure, rubbing,

temperature, shock; *d, genesic or sexual*—gentle excitation of erotic organs, touch, or mild impression of ovarian region.

3. *Mechanical action.* Modification of intra-ocular pressure. *a*, compression of ocular globe; *b*, convergence of the optic axis.

4. *Physical action.* Magnet, electric bath.

5. *Toxic action.* *a*, anesthetics, ether, chloroform, etc. *b*, inebriants, alcohol, hashish, etc.

*The mixed or empirical proofs*, according to *Richet*.—The subject being comfortably seated in a chair, place yourself before him; seize the thumbs for a few minutes, and fix your looks upon him. Then begin the passes, by bringing your open hand before brows, make them gradually descend before the face and the chest, and bring them in a circle to the starting point. Always carefully avoid touching the nude parts of the body.

*Heidenhain* preliminates the above proceeding by making the person look fixedly upon a glass ball with facettes for six and eight minutes, and this alone sometimes suffices to induce hypnosis; but if not, then he manipulates with varied hands, avoiding the touch.

One of the first conditions of success is to be provided with an apparatus which will make a strong impression upon the subject, and to manifest an absolute faith in all the manueurs he will be subjected to. These conditions have been well understood and well used by *Mesmer*. The magnetizer must exhibit a strong faith in himself, a great will power, a penetrating look and an attitude to impose upon the patient. He must also possess unalterable patience and much perseverance.

*Simple or Analytical Process*.—This process consists of the isolated employment of psychical, sensorial, mechanical, physical and toxic influences.

1. *Physical Action, Effective Order, Faith, Expectant Attention*.—The expectation of the hypnotic sleep, the certainty that it cannot fail, the faith in the omnipotent magnetizer, often suffices to induce sleep, especially in subjects who had before been operated on, who are cautioned of the uselessness of resistance. An event which one believes certain to occur produces often the illusion before a *fait accompli*. A person who imagines himself poisoned, is the first to feel the poison. The history is well known of the criminal who imagined himself bled in arm and limbs, and was so much impressed

by the sound and contact of warm water, which was made to trickle down his limbs, that he died. These are the kind of psychological facts that the theory of expectant attention are based upon.

A person can be hypnotized by a simple and rapid touch of the eyelid, by a brief and imperious command "sleep."

*Heidenhaim* relates the case of a student, to whom he announced that he would put him to sleep from a distance, precisely at 4 o'clock. At the exact moment sleep ensued. He calls this "the intense representation of sleep."

*b, Moral emotions and expressions, Expressive look.*—Vivid, sudden and unexpected moral impressions produce rather catalepsy than true hypnotic sleep. It is stated of a young Englishman, whose offer of marriage was rejected by a gay lady he loved, that he became cataleptic, and did not recover his senses or the use of his limbs until some one cried into his ears that his offer was accepted.

But it is different in the more gentle or sweet emotions, such as some women feel under the influence of a look of a man. Some experience an attack of hysteria, others feel erotic instincts roused, and still others are overtaken by an enervation which merges into a hypnotic slumber. This can not be the effect of a sensorial impression, but is the psychical signification of that look, which produced effects so different in one from another.

*C, Intellectual order, intellectual inertia.*—Feeble-minded subjects, whose slowness and variety of conception place them on the very border of sleep, are hypnotized with great facility, as soon as they are required to maintain a complete immobility and avoid all sensorial and psychical irritation, which seem necessary to keep them awake.

*b, Intellectual fatigue.*—In some hysterical subjects the same results, by seemingly entirely different means. We know how very small is the power of fixing their attention on any given subject, how difficult it is for them to follow up an idea in its logical conclusion. It is very easy by forcing them to respond to a series of questions deducible from one another to fatigue their attention; their intellectual efforts terminate in a hypnotic sleep.

2. *Sensorial actions.*—Suppression of sensorial excitement, darkness, simple closure of the eyes. Just as the intellectual repose, the suppression of sensorial excitement suffices to produce hypnotism.

A predisposed subject placed in the dark will not fail to go to sleep, provided all muscular exercises are interdicted. The same result may be obtained by simply closing their eyes.

*Feeble and repeated monotonous sensorial excitement.*—The fatigue of the sensual centers will produce hypnosis, as well as the fatigue of the intellectual center, provided the sensorial excitement is feeble, monotonous and frequent. Brusque and intense excitement produces the very opposite results. These excitements can be on *sight, hearing, touch* and the *genitals*.

*Sight.*—The magnetic passes are only feeble, monotonous, frequently repeated. External excitement produces cerebral hypnotism; also the fixed look upon a lustrous glass ball, or upon a white circle on a black ground will induce hypnotism

The persistence of retinal image, or the rapid succession of feeble impressions upon the retinal regions are in themselves able to hypnotize a subject predisposed to it. This was well known by the ancient magnetizers, who made their patients look upon a lustrous white spot upon a dark ground. *Braid*, the inventor of the method, has made a great step in the theory of somnambulism, not only by showing the suggestive symptoms, but by showing the emptiness of the pretended magnetic force of the operator, and the action of purely physical process.

*Hearing.*—We know the soporific effect of auditive, monotonous and prolonged impressions, especially when they contain anything that might awake attention and interest the mind. This is peculiar to long, tiresome sermons, long-spun, yarny lectures, and therein may consist the pleasure some persons have in listening to them. This is also the effect of lullabies, or the monosyllabic "schu, schu, schu," constantly repeated, with which nurses hypnotize children. Listening, with closed eyes, to the tic-tac of a watch will hypnotize.

*Tactile Impressions.*—Cutaneous excitement may, under certain conditions, determine artificial hypnosis, such as gentle fillips, gently stroking the face or neck. *Labove* produced somnambulism, even catalepsy, by prolonged rubbing of the sterno-mastoid region. Magnetic passes produce somnambulism by affecting, from a distance, the sensibility of the skin.

*Generic Senses.*—*Exciting the Hystero-Genesis and Erotic compression Regions.*—Friction, tickling, titilation, gentle

of certain organs, and especially those when contact is apt to determine a hysterical attack, are often followed by somnambulism. The most extensive and existant hystero-genic zone is the ovarian region, and, per contra, the compression of the testicle failed to effect a like result.

*Mechanical Actions.*—By which is meant the compression of the ocular globe. Simple digital occlusion of the lids is the best and least fatiguing mode of producing artificial hypnosis. Sometimes, however, sufficient force must be applied, as to materially increase the tension of the eye, and thus interfere with the circulation, and even cause retinal irritation.

*Physical Actions, Magnet.*—Landowsky published his observation in a case of a hysterical woman, upon whom a magnet produced a lethargic sleep, while a piece of iron of the same form and size produced no such effect.

*Toxic actions—anæsthetics, inebriants, hashish.*—All accidental general delirium, be it sympathetic of a modified pathological condition, or be it due to intoxicating agents or to anesthetics, can, in predisposed individuals, produce somnambulism; and after the return to the normal state, another new specific phenomena is found—amnesia—suspension or loss of memory.

*Mode of termination of the hypnotic state.*—After having lasted a variable time, from a minute to hours, or even weeks, somnambulism whether provoked or spontaneous, is self-limited. The subject opens the eyes, seems to awake from a profound sleep, looks around with astonishment and has not the least recollection of whatever occurred during the hypnosis—it is a page torn from his book of life. While weak monotones and frequent sensorial impressions are hypnogenic agents, so are sudden, violent moral sensorial emotions able to put an end to artificial hypnotism.—[*L'Encephale*, number 1.].—S. Pollak, M. D., St. Louis.

## CLINICAL NEUROLOGY.

ANOSMIA AND HYPEROSMIA—THEIR CAUSES AND SIGNIFICANCE.\*—That the olfactory nerve is sometimes *congenitally* absent has already been noticed. Breschet has seen this

\* Abstracted from a lecture on the "Physiology and Pathology of the Olfactory Nerve," delivered at the Hospital for Epilepsy and Paralysis, Regent's Park, by Julius Althaus, M. D., M.R.C.P., Senior Physician to the Hospital. Reported in the London Lancet for May 21st, 1881.

peculiarity to run in a family. The patient under his care had inherited it from his father; he had an aversion to flowers, and disliked to see them on the person of a woman. He had an antipathy to gardeners and botanists; yet he was able to perceive the emanations from cess-pools—namely, ammonia and sulphuretted hydrogen, and he was in the habit of taking mustard and snuff.

We know *atrophy* to be a common affection of the optic nerve, one of the early symptoms of locomotor ataxy. The same pathological process appears occasionally to invade the olfactory, more especially in the aged, where smell is impaired or lost, and sclerosis of the nerve has been discovered after death. This wasting appears to affect chiefly the external root, which is traced to the fissure of Sylvius, and which seems to be more important for olfaction than the middle or internal root.

*Loss of Pigment* in the skin of the body has been noticed by Dr. Hutchison, of Kentucky, in a negro boy, to coincide with loss of smell; and this case has provided Dr. W. Ogle with a text for remarks on the importance of pigment for olfaction. We have already seen that the presence of coloring matter in the olfactory cells is really dependent upon the integrity of the nerve, and that after destruction of the latter the pigment disappears. It is therefore more in consonance with physiological facts to assume that this absence of pigment is not of itself a cause of anosmia, as Dr. Ogle would lead us to believe, but simply a consequence of withdrawal of nervous influence. Anosmia and loss of pigment have, therefore, to be looked upon as symptoms of a pathological condition, but do not stand in the relation of cause and effect.

I lately had an illustrious person under my care who is an Albino, and devoid of coloring matter in the hair and iris. In early life he had had great difficulty in reading, and had been warned by oculists whom he had consulted that he would lose his sight altogether if he continued to read much. He eventually constructed for himself a very simple and ingenious contrivance by means of which the rays of light were made to fall on the retina through an exceedingly minute aperture; and with this little instrument he has managed for many years to read all day long without fatigue. His smell and taste had never been very keen; and when he was about sixty-three years of age he lost them altogether. No accident or other obvious cause had given rise to this affection, and I therefore looked

upon it as ultimate atrophy of a nerve which had never been highly developed, and consequent complete loss of any small quantity of pigment which might previously have been present in the sensorial cells of the nerve.

*Injury to the head* may give rise to anosmia from rupture of the olfactory nerves as they pass through the foramina of the ethmoid bone. In this place the nerves are exceedingly soft, and therefore particularly liable to be torn, while in the nose they have more power of resistance, from being invested with a sheath which is the continuation of the dura-mater. The brain matter adjoining these nerves may therefore, on account of its greater firmness, escape laceration, so that the only symptom after an injury to the head may be loss of smell. It seems singular that it should generally be a blow or fall on the *back* of the head which causes rupture of these nerves, as they are situated in front. The injury acts, indeed, more by contrecoup than by direct violence; and that the anterior portion of the brain should be more liable to suffer in this way than the posterior is owing to the fact that the former is situated directly on the depressed and elevated surfaces of the cranial bones, which here present great irregularities in their shape, while the posterior lobes rest on a soft cushion, the tentorium cerebelli, whereby they are effectually protected.

*Excessive stimulation* may temporarily or permanently destroy the excitability of the olfactory nerve. It is related of Marshal Richelieu that he habitually lived in an atmosphere of the strongest scents, which made his visitors quite ill, while he was himself ultimately quite unaware of them. Scavengers, dustmen, and tallow-boilers become after a time insensible to the disgusting odors surrounding them, anatomists to the smell of the dissecting-room, and patients suffering from cancer to the emanations from their sores. But even true anosmia, or insensibility to *any* odorous substances, may thus be produced. Graves has recorded the case of a captain in the Yeomanry, who in the Irish rebellion of 1798 had to superintend the work of emptying out an old cesspool which was filled with the offscourings of the market and all manner of filth, and on the bottom of which 500 pikes were reported to have been concealed, and were actually discovered. He was all this time exposed to most abominable effluvia, and suffered greatly from the stench. Next day he found that he had entirely lost his smell, and thirty-six years after-

wards, when Graves examined him, the anosmia still persisted. A similar thing happened to a surgeon at Bremen, in Germany, who had to make the post-mortem examination of an archbishop who had died of cancer of the stomach. The fearful emanations arising from the body of this dignitary of the church destroyed the surgeon's smell for life. Such cases are analogous to those of blindness from exposure to a too intense light, and deafness from explosions at close quarters. The pathology of these conditions has not yet been investigated, but I deem it probable that they are owing to capillary hæmorrhage in the nerve.

*Inflammation* of the olfactory nerve would appear to be an exceedingly rare occurrence, which seems singular if we consider the frequency of optic neuritis. The latter occurs almost invariably when the intracranial space is reduced by tumors, but such a condition does not seem to affect the first pair in a similar manner. The only case of acute olfactory neuritis which has as yet been placed on record occurred in a patient who was some years ago under my care at the hospital, and who suffered from an advanced stage of locomotor ataxy. He was a banker's clerk, aged forty-eight, married, and father of two children, and had been in good health until eight years before admission, when, apparently from having been exposed to cold draughts at his office, he began to feel a numbness in his feet, and in walking it seemed to him as if he was treading on india-rubber or cotton. About the same time he was startled by perceiving a strong smell of phosphorus, which never left him for six weeks, and overpowered all other accidental smells. At the end of that time he noticed that he had become entirely insensible to odors of any description. I tested the patient with a variety of other strong scents, none of which he was able to perceive. When allowed to sniff ammonia he experienced the usual sensations of tickling in the nose, choking and lacrymation, and snuff made him sneeze. The nasal twigs of the fifth nerve and of the sphenopalatine ganglion were therefore shown to be in their normal condition. The patient tasted sugar, salt, quinine, and acids, but the perception of flavors in eating and drinking was entirely gone. When his eyes were bandaged he was unable to distinguish between stewed onions, apples, and turnips which were given him, but he could tell the difference between roast beef and mutton by the tactile sensibility of the tongue.



He did not perceive the flavor of wine; claret tasted to him like weak vinegar and water, and port wine as spirits and water. The patient died of collapse some months after admission, and Dr. Ferrier, who was then my colleague at the hospital, made the autopsy. There were found the naked-eye appearances of neuritis of the first pair at the base of the brain, and the specimens were removed and handed for microscopic examination to the late Dr. Lockhart Clarke, who was then likewise physician to the hospital. Unfortunately that gentleman died soon afterwards, and I have not been able to trace the specimens, which is much to be regretted in a case of such extreme rarity. That this, however, really was a case of acute olfactory neuritis seemed evident from the symptoms which were observed during life. There was at first a stage of sensorial hyperæsthesia, which, after having lasted for six weeks, merged into complete anæsthesia of this special sense. This corresponds closely with what I have observed in neuritis of the fifth nerve, where there is likewise a first stage of hyperæsthesia, as evidenced by severe pain in the parts supplied by that nerve, and lasting five or six weeks, after which complete anæsthesia of the face and motor paralysis of the muscles of mastication set in. The perception of the smell of phosphorous, which this patient had had for six weeks consecutively, I attribute to the circumstance that the olfactory nerve responds to stimulation other than by special odoriferous substances, by perception of this peculiar smell. I have already spoken of this symptom when treating of the galvanic excitability of the nerve, and the case just related seems to show that it is also caused by irritation of the nerve through hyperæmia and inflammation, similarly as in retinitis flashes of light are perceived by the patient.

I have reason to believe that *chronic olfactory neuritis*, leading to loss of smell, occurs in syphilitic patients, together with affections of other nerves at the base of the brain.

*Tumors* growing at the base, and irritating or destroying the first pair, will cause, first, hyperosmia, and afterwards anosmia. Lockemann has described the case of a woman who complained of horrible smells which nobody else could perceive, and also suffered from vertigo and epileptiform convulsions. The smells ceased after a time, and it then appeared that the patient had lost the faculty of smelling on the left side. The other symptoms gradually increased in severity, and the patient died. On

inspection a sarcomatous tumor was discovered in the left frontal lobe of the brain, which had completely destroyed the olfactory tract on the same side.

Finally, disease of the *olfactory center* in the brain may unduly exalt or destroy smell. That such a center exists had been suspected for a long time, and pathologists sought it near the fissure of Sylvius and the island of Reil, and in close proximity to Broca's convolution, for anosmia has been found associated with aphasia and right hemiplegia from embolism and hæmorrhage. In such cases the loss of smell is confined to the side of the lesion. We have therefore right hemiplegia and left anosmia. This apparent discrepancy is satisfactorily accounted for by the circumstance that there is no decussation of the olfactory paths in the interior commissure which joins the temporo-sphenoidal lobes, and smell is, therefore, appreciated on the same side on which it is perceived. Experimental physiology has gone a step further in localizing the seat of the olfactory center more definitely. Dr. Ferrier finds it in the tip of the temporo-sphenoidal lobe, or the subiculum cornu Ammonis, which appears likewise to contain the gustatory center. Faradization of this part in animals is followed by a sniff, which is evidently the outward expression of the excitation of subjective olfactory sensations. Destruction of this part seems to cause loss of smell, and Ferrier's view is supported by the circumstance that this structure seems to be particularly developed in animals which have a very keen sense of smell. Yet Munk, who has likewise investigated the relations of the cerebral cortex to the special senses, has come to entirely different conclusions, so that the question must still be considered to some extent an open one.

It seems rational to assume that the hemi-anosmia of hysterical women, which is part and parcel of the hemi-anæsthesia from which they are so apt to suffer, is owing to a neurosis of this center. The olfactory hyperæsthesia which is so frequently seen in certain forms of insanity, hysteria, and as a premonitory sign of epileptic attacks, no doubt arises from undue excitability of the nerve-cells in the olfactory center, which gradually spreads to the cells of the motor convolutions and tracts, and ends in a convulsive epileptiform seizure.

ON GENERAL PARALYSIS OF THE INSANE CONSECUTIVE TO LOCOMOTOR ATAXY.\*—In general paralysis the rule is

\* By W. Julius Mickle, M. D., M.R.C.P., Medical Superintendent Grove Hall Asylum, London —[*London Lancet*, May 21st, 1881.]

that cerebral symptoms precede spinal. Spinal symptoms, indeed, may be absent or slight, and when present, as a rule, they are secondary both in time and in importance. The usual motor spinal symptoms are either ataxiform or paralytic; the ataxiform are those almost invariably found; the paralytic are accessory and inessential, but, especially in their slighter degrees, are very frequent accompaniments of the later stages of general paralysis. Usually the spinal symptoms are of a mixed character, being both ataxic and paretic in nature.

There are examples of general paralysis, however, in which the spinal symptoms come on simultaneously with the cerebral; there are also cases in which the spinal symptoms distinctly precede the latter. By this last group the observer is brought a step nearer to the subject now in question, for in cases belonging to it we may, in thought, follow a morbid process which originates in the spinal cord and meninges, and subsequently passes upward to the encephalon and its meninges. But in this group are found the ordinary symptoms and lesions, both spinal and cerebral, of general paralysis; here the ataxy differs from the ataxy of *tabes dorsalis*. Obviously, cases of this group differ from those in which general paralysis is supposed to follow upon a propagation to the brain of disease from the cord in prior locomotor ataxy. This alleged pathology of the cases has not been fully accepted, and in the case to be related the *causal* relationship of locomotor ataxy to general paralysis is defective in proof.

Widely differing cases have been placed on record to exemplify the relationships and co-existence of locomotor ataxy and general paralysis. In some of these it is difficult to be certain, from the description, whether or not true general paralysis, or, again, true locomotor ataxy, was present; in some, either the former or the latter was certainly absent; and in some others, where both seem to have existed, their order of priority is by no means clear; while, again, in some the symptoms of general paralysis and of locomotor ataxy, seem to have both appeared and continued simultaneously. Thus, the subject has been obscured by the introduction of cases that will not bear the special interpretation put upon them, and this has partly been due to the formerly imperfect recognition of the ataxiform character of the chief motor affection in general paralysis, the minds of observers having been prejudiced by the word paralysis, as applied to this

disease, and by the undoubted paretic and paralytic conditions so often observed therein. Hence, patients in whom the ataxy of general paralysis has been unusually pronounced may readily, but erroneously, have been supposed subject to locomotor ataxy.

In Voisin's description of the pathogeny and relations of the spinal lesions in general paralysis, it may be gathered that he regards the cases in which the spinal disorders antedate the encephalic as capable of being placed in three groups; in the first of which the spinal and encephalic lesions occur successively, but without any relation between them of causality or continuity, similar causes producing first a myelitis and later on the cerebral lesions of general paresis; while in the second group the spinal affection is supposed to cause the encephalic lesion in a reflex manner, primarily affecting the cerebral circulation, the influence of the spinal cord upon vaso-motor phenomena being acknowledged; and, finally, in the third group there is a direct extension of disease to the brain from the pre-existing disease of the cord—the very sort of case we have been speaking of above.

In speaking of general paralysis by propagation—*i.e.*, of general paralysis from extension to the brain of pre-existing disease from other parts of the nervous system—attention will here be confined to the cases in which the antecedent affection has been progressive locomotor ataxy, or gray degeneration of the posterior spinal columns.

[Dr. Mickle will continue this subject in the same journal.—Ed.]

LISTERISM AND THE DUELLO.—From the *Lyon Medical* we learn that at a late French duel, at the critical moment, when the swords of the combatants were crossed, the voice of the surgeon was heard calling a halt in order that he might baptise the hostile blades in the germicide bath as a precaution against possible septicæmia.

No blood seems to have been spilt, however, and the precautions were vain.

One step more and the mission of science in this direction is complete. Let the missives of each sanguineous belligerent be bathed in antiseptic balm and the destructive result of personal and aggregate combat will be uncomplicated by the villainous septic germ. Here is a field for "Lambert's Listerme." *Scientia magnum est.*

NOVEL EFFECT OF NERVE STRETCHING.—In one of Debove's cases, stretching of the median and radial nerves only ameliorated the symptoms on the side of operation, while it relieved them entirely on the opposite side.

A CONTRIBUTION TO THE STUDY OF ASPHASIA, with special reference to "word deafness" and "word blindness," by Dr. A. B. Ball, Physician to St. Luke's Hospital, New York (*Archives of Medicine*, April), supplemented by the autopsy made by Dr. E. C. Seguin, and the microscopical examination of Dr. Peabody, accompanied also by Spamer's diagram of the cerebral *perception* tracts and *conception* region, will prove especially interesting to students of morbid speech phenomena.

The patient was Dr. Charles M. Allen, of New York. During his life-time he was under the observation of Drs. Dubois, Austin Flint, Jr., John T. Metcalf, Henry D. Noyes, Allen McLane Hamilton and E. C. Seguin.

The history given by Dr. Ball, and some supplemental facts, besides the autopsy, contributed by Dr. Seguin, point to a more diffuse location of the "speech center" than that circumscribed by Broca's convolution. In Dr. Allin's case "*the third frontal convolution and associated motor tract were intact.*" The paper concludes with this statement: "Aphasia, with prominent word deafness or word blindness and hemi-anæsthesia, cutaneous, muscular or sensorial, is dependent upon a lesion placed behind the fissure of Rolando, in regions which correspond to the sensory cortical centers of the monkey and dog, as determined by Ferrier and Monk."

The following diagrams illustrate the external and internal locations of the lesion:

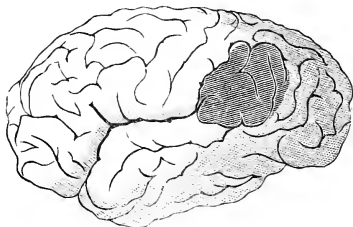


FIG. 1.

Lateral view of the left hemisphere of Dr. Allin's brain, showing the superficial extent of the patch of softening.

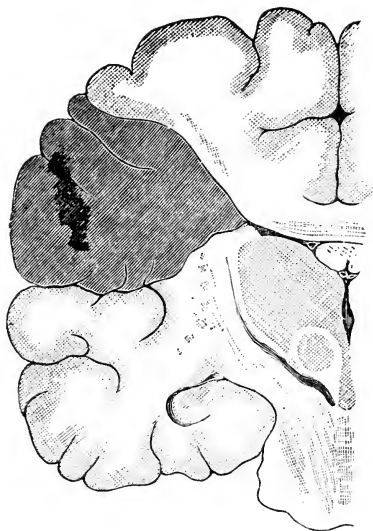


FIG. 2.

Transverse vertical section through left hemisphere, showing the extension inward of the patch.

CEREBRAL DEVIATIONS IN INCURABLE EPILEPSIA.—Dr. J. S. Wright, having, in the *Medical Gazette* for August 14, 1880, shown that the brain of the confirmed inebriate deviates from the standard brain, communicates to the *Philadelphia Medical and Surgical Reporter* of November 20th, a cleverly written paper, in which he concludes that the brain of an incurable epileptic is an hereditary deviation from the standard brain, and that this hereditary deviation is a diseased condition, "after having its root in an inebriate parent," and that this organic deviation explains the incurability of some cases of epilepsy.

While these conclusions are not new with reference to the incurability of certain forms of non-traumatic chronic epilepsy, the author's method of arriving at them by measurement of the several cranial arches, "from one mastoid center-point to another"—the anterior, frontal, middle, superior and posterior arches, a base line from one mastoid to the other, the greatest transverse diameter,

the greatest antero-posterior diameter, leaving out the frontal sinuses, the greatest antero-posterior circumference above the frontal sinuses and occipital protuberance, and the "masto-frontal angle," approximate the exactitude of a cranial cast. From this fact, he reasons thus: "in the standard conditions of the brain, the discharging or motor centers of the cortex operate and cooperate on the muscles, under the orderly direction of the coordinating cells of the cerebellum—the motor centers and the coordinating centers are so adjusted to each other as to carry out their normal functions. The work of the nerve cells is properly and regularly performed.

In the deviated condition of the epileptic brain, the discharging or motor centers of the cortex being relatively large, operate and cooperate with extraordinary energy on the muscles, under the disorderly direction of the coordinating cells of the cerebellum, which are apparently fewer and weaker on account of hereditary influences.

The motor centers and coordinating centers are not normally adjusted. The nervo-muscular apparatus must not only have a co-ordinator, but the co-ordinator must be adequate to perform its true work.

His argument in regard to the hereditary transition of intemperance is as follows: Alcohol disturbs muscular co-ordination by interfering with the nerve cells that co-ordinate the muscles. These nerve cells are supposed to be in the cerebellum. The disturbance of nerve cells of co-ordination in the (inebriate) parent, leads to diminution of the space occupied by these cells in the offspring.

This he confirms by measurements, and the conclusions above follow.—Hughes.

SIGNIFICANCE OF FACIAL HAIRY GROWTHS AMONG INSANE WOMEN.—Dr. A. McLane Hamilton's conclusions; abstracted from *New York Medical Record*, March 12th, 1881:

1. Abnormal growths of this kind, especially upon the face, are connected with disturbed functions of the pelvic organs of women.

2. They are by no means uncommon in the insanity of women, especially in dementia, when the cutaneous nutrition is changed.

3. Their unilateral character, association with unilateral skin lesion, bronzing and change in the nails, indicate their nervous origin.

4. Their location, chiefly in the face, in the insane, and relation to trophic disorders incident to facial neuralgia, point to the fifth nerve as concerned in the pathological process.

5. Their development with the deposit and pigment of skin lesions and goitre, leads to the inference that their neuro-pathology is the same as that which causes addeious disease.

6. Considerable hairy growths on the face of the female insane indicate unfavorable forms of insanity, especially in women past middle life.

[This sign, probably has a significance similar to the "insane ear," and arrested growth of the nails.—Ed.]

THE EXPRESSION OF FEIGNED GRIEF.—The following, according to M. Paolo Mantegazza, the eminent Italian physiologist, are signs of feigned grief: 1. Expression exaggerated relatively to the cause. 2. Visage not pale, muscular, intermittent. 3. Skin has normal heat. 4. Harmony in the mimicry; certain contractions, relaxations wholly wanting in real grief. 5. Pulse frequent from exaggerated muscular movement. 6. A surprise makes the tragic mask immediately fall off. 7. Among the tears, sobs and lamentations, a chuckle sometime expresses the malignant pleasure of deception. 8. Expression eccentric, or is wholly wanting in concentric forms.

THE REFLEX IN ATAXIA.—Drs. Fisher and Schwening (*Centralblatt fuer Nerven.*, No. II) states that among nineteen cases of locomotor ataxia he found four in whom the patellar reflex persisted. These added to those of Gowers, Berger, Bannister, Erb and others, besides our own, makes quite an array for Westphal to consider.

THE MEDICO LEGAL ASPECTS OF MAGNETISM.—In Paris, recently, *Didier*, considered guilty by the civil authorities, was held to be irresponsible by medical experts. The man was mesmerized by Dr. Mottet, and put through various tests, to the satisfaction of the court, and declared irresponsible.

PAROTITIS AS A SEQUEL OF OVARIAN OPERATIONS.—The *Medical Press and Circular* says Dr. Schroeder has recently seen parotitis as a sequel to five ovariectomies. Two of the cases were fatal.

THE CREMASTER REFLEX AS A PHYSIOLOGICAL ÆSTHESIMETER.—Dr. José Armaugue in *El Siglo Medico*, October 30th, 1880, thinks the organic æsthesiometer, furnished



in the well-known phenomenon of cremaster reflex excitation is in some respects preferable to mechanical æsthesiometry, not being subject to the will, intelligence, emotions or imagination of the patient, while this æsthesimotric test cannot be applied to females or to certain remote parts of the male.

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## CEREBRAL AND NEURO-THERAPEUTICS.

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CURABILITY OF EPILEPSY.—A. Hughes Bennett, M. D.  
—Of 47 cases of Epilepsia Major, in 8 there were no attacks during the whole period of treatment; in 1 there was no improvement; in 1 the attacks were augmented after treatment, and in 37 there was marked and varying diminution of the seizures. Of 18 cases of E. Mitior there was no case where the attacks were wholly suspended, in 1 there was no improvement, in 2 the attacks were increased, and in 15 they were diminished in number by treatment.

Of 15 cases of the purely diurnal form, in three there was a total cessation of attacks during treatment, and in all the others there was diminution in their number. Of 7 nocturnal cases, in none were the seizures entirely arrested, in 1 the attacks were increased in number after treatment, and the remainder were relieved to a greater or less extent.

Of 39 cases with a perfectly sound family history, in 3 the attacks were totally arrested during treatment, in 2 there was no improvement, in 2 there was an increase of seizures after treatment, and in the remainder there was diminution of the fits. In 18 cases where at least one near relation suffered from either epilepsy or insanity, in 3 the attacks were arrested; in 1 they were increased, and in the remainder diminished. The disease being inherited, or existing in other members of the family, makes no difference as to results of treatment.

The age of the patient neither assists nor impedes successful treatment.

1. In 12.1 per cent. of epileptics the attacks were completely arrested during the whole period of treatment by the bromides. 2. In 83.3 per cent. the attacks were greatly diminished, both in number and severity. 3. In 2.3 per cent. the treatment had no apparent effect. 4. In 2.3 per cent. the number of attacks was augmented

during the period of treatment. 5. The form of the disease, whether it was inherited or not, whether complicated or not, recent or chronic, in the young or in the old, in healthy or diseased persons, appeared in no way to influence treatment, the success being nearly in the same ratio under all these conditions. 6. In 66.6 per cent. there was no trace of bromide poisoning. In the remaining 33.4 per cent. this was observed in varying kinds and degrees, but in no case to any serious extent.

[The prognosis of epilepsy, in which heredity is a factor, is in conformity with the law of most hereditary disease, viz: hereditary transmissions does not make the cases less curable, though such cases may be more prone to recur than cerebral disease *de novo* is to occur.—Ed.]

DR. H. H. KANE'S TREATMENT OF CHLORAL POISONING. —First, evacuate the contents of the stomach; then stimulate the heart with caffein citrat, strychnia, digitalis, atropia (subcutaneously), brandy (subcutaneously and by rectum), amyl nitrite (inhalation), carbonate of ammonia (intravenous). To maintain temperature: wrap blankets, apply hot bottles to feet and body. To stimulate respiration: electricity (Faradization of phrenics), oxygen (inhalation). To clear mind: shaking, talking, douche to head, strong coffee by the rectum. (After a dose of chloral the stomach is often incapable of absorbing anything.

Never give beyond the 1-10 grain of atropia in all. The pulse, not the pupil, should be the guide as to when enough has been given. Strychnia may be given freely. 1-20 grain, followed by 1-30 or 1-40 grain or even more in an hour's time, if no improvement shows itself, it should be given subcutaneously. If the dose of chloral has been large, the strychnia may be used in larger doses.—[*New York Medical Record*, March 12 and 19.

[The very best and least objectionable plan we know of, conjointly with subcutaneous atropine, is that of rectal enemata of tr. capsicum. 2 dr., aq. ammonia, 1 dr., and strong coffee; *pro re nata* until two or three such injections are taken. If coffee is not at hand, milk is a good menstruum.—Ed.]

PISCIDIA ERYTHRINA (JAMAICA DOGWOOD).—Sixty years have not yet passed since the discovery of morphia by Sertürner, in Germany; though opium and its medicinal

properties have been known since the commencement of the Christian era, and the poppy from which these products are obtained has an antiquity a thousand years earlier. Narcotic poisons were well known in the palmiest periods of Greece. The death of the philosopher Socrates has embalmed in eternal memory the lethal effects of conium. For eighteen hundred years, in the realm of narcotics, opium has reigned supreme and alone. It is also a stimulant, and, on account of its specific effects upon the vascularity of the cerebral meninges, and its inhibitory power upon the sympathetic system in general, its exhibition, in a larger number of diseases, is contra-indicated.

The drug, designated *piscidia erythrina*, has recently appeared, and, from the physiological effects observed by its use, it seems richly worthy to be classed among anodynes and narcotics. Those who have presented it to the profession, claim for it effects and efficiency similar to those of opium, but, at the same time, destitute of some of its objectionable qualities. Should these excellencies be confirmed by more extended experiment, *piscidia* will be hailed as a most valuable addition to our pharmacopœia.

*Piscidia* is found in the Island of Jamaica; it derives its distinctive name from two Latin words, signifying "fish killer," thus indicating a purpose to which the natives of the island employ it, an impression of the bark, and especially of the root, producing a very strong narcotic effect upon the fish of the streams. From various sources we collate, without specific acknowledgment, the following, viz.: An infusion of this drug, administered to a frog, produces mydriasis, labored respiration, abolition of sensibility due to central causes, convulsions, but not of cerebral origin, tetanus, opisthotonos. In rabbits, it produces, at first, increased rapidity of respiration, retarded action of the heart, blunted sensibility, muscular incoordination, myosis, followed by mydriasis, convulsions and death.

Respecting its action upon man in health, it reduces the pulse, but does not excite or paralyze the cardiac inhibitory apparatus; like pilocarpine, it produces general perspiration and salivation; and, like atropia, it causes dilatation of the pupil, but does not paralyze motor nerves nor the chorda tympani. It relieves pain and induces sleep without producing constipation or disturbance of the

appetite, nor does it paralyze the pneumogastric. It seems, therefore, especially to determine to the sympathetic system, and, unlike opium, it leaves no general nervous disturbance.

In regard to reflex action, "the primary fall of reflex action is due to a stimulation of the inhibitory centers of Setschenow, the tetanus to a spinal and muscular excitation, and the subsequent loss of reflex action to a paralysis of the sensory ganglia of the spinal cord."

Muscarine produces similar effects to that of piscidia, it is a powerful myotic, and, in poisonous doses, administered internally, it arrests the heart's action by its effect upon the inhibitory nerves of this organ, while hyoscyamin, in a case narrated by M. Empis, in which one-twelfth of a grain had been administered, produced extreme mydriasis, congestion of the face, restlessness, dryness of the tongue (atropia), nausea, vomiting, violent delirium, tetanic convulsion, impassible deglutition; breathing, short and difficult; the pulse remaining steady at 96; its effects continuing not less than three hours.

A tincture was made by macerating an ounce of piscidia bark, in coarse powder, in four ounces of rectified spirit for twenty-four hours, and then filtered. Of this, "Dr. Wm. Hamilton, of Plymouth, England, while suffering from severe toothache, took one fluid drachm in cold water on going to bed. He first felt a violent sensation of heat, internally, which gradually extended to the surface, and was followed by a profuse perspiration, with profound sleep for twelve hours. On awakening, he was quite free from pain, and without the unpleasant sensations which follow a dose of opium."

One of its observed effects is itching of the skin, and, when administered on an empty stomach, it is liable to produce nausea. Dr. F. L. Putt, therefore, recommends its combination with a small amount of glycerine, camphor-water and a few drops of essence of wintergreen, in syrup. As its effects have been observed to be cumulative, care must be exercised in its administration, for any medicinal agent potent for good is also potent for ill.

Dr Isaac Ott, in recent numbers of "*Brain*," "*Archives of Medicine*" and other journals, thus epitomizes the action of this drug, viz.:

- 1.—It is a narcotic.
- 2.—It does not paralyze or excite the motor nerves.
- 3.—It does not act on the extremities of the sensory nerves, but their central connection, the

sensory ganglia of the spinal cord. 4.—It produces convulsions; partly by stimulation of the spinal cord, and partly by heightened excitability of the voluntary striated muscles. 5.—It reduces the frequency of the pulse by an action on the heart itself, probably on its muscular structure. 6.—The arterial function temporarily rises by stimulation of the monarchial vaso-motor center; that it soon falls, due to a partial paralysis of this center and the heart itself. 7.—It at first contracts, and then dilates, the pupil.—*Dickinson.*

A CASE OF HYSTERICAL APHONIA of two years' standing cured by a necklace of copper, is reported by M. Burq, of Metallotherapy fame, in *Gazette des Hopitaux*, April 28th, 1881.

A CASE OF TRAUMATIC DEMENTIA CURED BY TREPHINING, nineteen months after the injury, is reported by *MacKenzie Bacon* in the *Journal of Mental Science* for Jan., 1881.

In the same journal, of same date, *Dr. Geo. H. Savage* reports a marked "improvement in a general paralytic after a severe carbuncle."

THE CEREBRAL GALVANISM OF RABBITS, by Lowenfeld, (*Centralblatt Med.* March, No. 8, 1881), shows that a descending current from forehead to neck contracts the vessels of the pia-mater, while an ascending current dilates them. Transverse currents dilate the vessels on the side of the anode, and contracts them on that of the cathode.

Induced currents in any direction caused *hyperæmia cerebri*. The direct effect of induced currents seem not to be limited to the vessels.

BENEFITS AND DANGERS OF OVARIAN COMPRESSION.—*Perast* (*British Med. Journal*, April 2, 1881), reports a case in which moderate pressure was made on left ovary of an hysterical patient in good health, other than the hysteria. The next day peritonitis set in, followed by death in two days.

*Per contra*, Bourneville (*Le Progres Medical*, No. 2., 1881) practices persistent compression of the ovaries in a case of hysterical hemiplegia, hemi-anæsthesia, contracted jaw, stiff joints and ovarian hyperæsthesia, and, "*presto*," the paralysis is gone (!) without unfavorable sequellæ.

Here is a rule that works both ways.

THE ELECTRIC TREATMENT OF EXOPHTHALMIC GOITRE.\*—Every physiological consideration and all experience points to galvanism as prominently indicated, and yet the Faradic

\*Read before the Section of Practice of Medicine, Materia Medica and Physiology, by Dr. A. D. Rockwell of New York, American Medical Association, June 1880.

current is not altogether useless. The applications must be *general*. Dr. R. places the cathode over the cilio-spinal center and the anode in the auriculo-maxillary fossa, gradually drawing the anode (after a few moments of stable treatment) along the inner border of the sternocleidomastoid muscle to its lower extremity. The second step in this process consists in removing the anode to the position occupied by the cathode, and using for a minute or so longer a greatly increased strength of current.

DR. ALLAN McLANE HAMILTON'S EXPERIENCE WITH THE TRIBASIC PHOSPHATE OF SILVER IN CERTAIN NERVOUS DISEASES is that it has proved of great value:—

1. In more or less acute myelitis with disturbance of the bladder and rectum, improving the control over these organs, and causing a decided gain in muscular power. A very remarkable case of chronic meningo-myelitis seen in consultation with Dr. Todd, of Ridgefield, Conn., is cited in proof.

2. In seven cases of posterior spinal sclerosis there was subsidence in the violence of pains, and material increase in the power of locomotion in those that had taken the drug for over a year.

In six cases of inveterate epilepsy, dependent upon gross inflammatory intracranial changes, there was diminution in the number of attacks.

Dr. Hamilton believes that a persistent and proper use of this salt will do much more for the patients than any of the drugs hitherto used to benefit cerebral tumor and general paralysis, though he expects no cure in these hopeless cases.

AMYL NITRITE *vs.* TOXIC DOSES OF CHLORAL.—Doctor Sinclair Coghill is reported in *Le Paris Medical* as having restored a very grave case of poisoning by a large dose of chloral by this agent. The patient seemed dead, but was revived by inhaling twenty drops of nitrite of amyl.

INTRAVENOUS INJECTION OF AMMONIA.—Mr. Thomas E. Clark, of Bristol, in *British Med. Journal*, March 12, says:

Collapse in many cases of hemorrhage is due, not so much to the loss of blood, as to nervous shock; therefore ammonia is more likely to be beneficial than transfusion of blood. He commends it for collapse from nervous shock in midwifery practice especially, because there is not time for remedies to reach the system other than by being placed directly in the venous channels.

DR. BAUDUY'S conclusions on alcoholism (St. Louis *Courier of Medicine*, December 1880), drawn from eight hundred cases: "It is self-limited, resulting from abuse and not withdrawal of sedative and narcotic doses of the (so called) stimulants."

He discards opiates as dangerous, tending to paralyze the heart, check elimination and impair digestion.

He relies on the *Vis Medicatrix Naturæ* in most cases, and has been most successful with the expectant plan of treatment.

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## EDITORIAL.

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THE NERVOUS SYSTEM IN DISEASE AND THE PROGRESS OF NEURO-PATHOLOGY.—It needs no prophet to foresee that the neural pathology is destined to reign in medical thought and supplement where it does not supplant the vascular in explanation of the phenomena of disease. The theme is too vast for an editorial page, and our space too limited to even indicate, without specification, the achievements of the recent past and present the possibilities of the not remote future in this direction.

Witness, however, in confirmation the remarkable deference now paid to the views of neural pathologists and psychiatrists of note, especially abroad, and the credulous consideration given to once ignored subjects, such as the transference of sensation, metalloscopy and metallothrapy, trance therapeutics, etc., which have immortalized the once rejected and contemptuously received names of *Braid* and *Burq* and even of the not over professional *Mesmer* and turned professional attention to those *auto-amnesic* and *deuto-physic* states which are variously designated by the names of double consciousness, somnambulism, artificial insanity, trance, hypnotism, Braidism, Mesmerism, etc. From having been regarded by reputable physicians as a sort of *noli me tangere*, to be touched only by jugglers, quacks and mountebanks, and looked upon as "monsters of such frightful mein as to be hated, needs but to be seen," the promulgators of these doctrines

have been successively "endured, then pitied, then embraced," until professional faith, once so incredulous as to believe nothing, has become possibly more credulous than the precise boundaries of actual discovery in psychiatry and neurology yet warrant. An exalted, and perhaps exaggerated faith, born of the plausible possibilities of neuro-physic function foreshadowed in the known physiology and pathology of the nervous system and mind have taken possession of many medical minds, and eyes and ears once closed are open to the seemingly most remarkable and incredible phenomena, with *cortices cerebri* receptive enough to evolve the truth from them.

All of this has grown out of the possibilities revealed in the progress of neurological research.

It would be interesting to search the records of practical and theoretical medicine, and set down in chronological order the invasions of the new and the abandonment of the old pathology in numberless diseases which might be specified, but to do this a treatise would have to be written, and will yet be produced, though living medicine has now but little time for funeral ceremonies over moribund ideas, and is disposed to let "the dead past bury its dead."

Note, however, in illustration, the progress toward its recognition as a neurosal disease of exophthalmic goitre from the time Flagani, an Italian physician, in 1802, first described it, up through the description of Parry in 1825, Graves in 1835, and Basedow in 1840, to its present recognition by all writers on disease of the nervous system down to Allan McLane Hamilton, one of the latest and best of American medical authors.

Every day the blood pathologists yield some of their territory, until finally the whole vast field will be ours.

Omitting all mention of those numerous and hitherto unrecognized neurosal affections which were not known under any name until neurology brought them forth and christened them; we may cite further, that familiar disease, rheumatism, with its well known metastatic freaks, like those of erysipelas and the exanthema, as well as its frequent association with chorea, which, if not due, as Latham has conjectured, to a weakening of the "chemical inhibitory center," is in our opinion destined soon to have its proper place assigned it by common medical consent, among the *neuro-sanguin diseases*, along with its twin morbid sister, gout, which as Dyce Duckworth has recently shown, is an equally



neuro-pathic disorder. Both gout and rheumatism, in our opinion are tropho-neuroses. Their interchangeability in families with other neurotic diatheses goes far to prove this, independently of other proofs. Ziemssen identifies chorea and rheumatism as the same affection under two different forms, having their origin in the basal-cerebral ganglia, and notes the fact that certain morbid changes in the spinal cord and nerves give rise to arthritic inflammation in chorea not distinguishable from the joint affections of rheumatism.

It is just as well for us to state it here as anywhere what we have long regarded as an irrefutable truth in pathology, viz: That *all of the hereditarily transmissible diathetic conditions*, whatever may be the cachæmic states and mal-atrophic products by which they are commonly recognized, *are neuropathic tropho or vaso-motor neuroses*.

We do not except even the hemorrhagic diathesis or hemorrhagic purpura. The lesions of the vascular coats being in these diseases inconstant and insufficient alone to explain all of the morbid phenomena. Nor need we exclude Bright's disease or phthisis, the former of which has recently been assigned to its proper ganglionic abode in the renal plexus by Da Costa and Longstreth, and the latter long ago noted by Dr. Schroeder Van der Kolk, as one of the most interchangeable of diseases with insanity, a fact some years ago reiterated by Dr. Outten of this city, and subsequently by Dr. Angear, of Iowa. In phthisis, cancer and diabetes the nervous system is more at fault than the organ or location that reveal these diseases to our eye.

Their long latency and ataxic transmissibility under certain favorable influences, conservative of health, are only satisfactorily explainable upon this hypothesis.

And so it is with a vast chain of diseases, not yet by general consent of the profession, relegated to the domain of neuro-pathology. The record of the acknowledged vaso-motor or trophic nerve disorders, connected, and probably primarily so, with the various skin affections, would make no insignificant list even were the record to embrace only such as Tilbury Fox and other eminent dermatologists now recognize as of neurosal origin. The list would assuredly not be confined to erysipelas, herpes zoster, pompholyx and urticaria, even though we excluded pruritus, the hyperæsthesias, analgesias and anæsthesias.

Passing over the novel view of Caron (1811), recently reiterated by J. L. Milton, but never favorably received by the profession that "the venereal principle is a movement impressed and not an observable body," it is, nevertheless, interesting to recall recent confirmatory experience in connection with the statements of Fornier and others, that many of the gravest cerebro-spinal lesions resulting from the virus of syphilis are often antedated by an imperceptible or scarcely noticeable primary lesion of the skin. The venereal principle is really obvious, but its presence is only revealed like that of other diseases when the morbid movement through the agency of the nervous and vascular system takes place.

The lesion in cholera that kills is undoubtedly neurosal, whatever may be the initial atmospheric *materies morbi* causing it, and it cannot be plausibly gainsaid that the initial lesion is not more significantly in the nervous system than elsewhere, as Jewell and others have intimated, just as the real disease of sunstroke is a paralysis of the sweat centers whatever may be the resulting and accompanying changes in the blood.

The general non-recurrence of the zymotic exanthemata and the immunity that results from acclimatization in regard to certain diseases suggests a neurosal impression which diminishes subsequent impressibility.

The period of incubation in the specific contagious diseases is the length of time the poison takes, not to be absorbed, but to so modify the normal activities in the nervous and dependant vascular and glandular system as to give the expression of disease. Rabies and tetanus, and the phenomenon of latency are not exceptions to this proposition.

These are not views discerned only through special lenses, but in the main they are now perceived by the general profession, so that a century of observation confirms the conclusion of Cullen, that "from all that we can discern of the movements of disease going on in the body they are so dependent on the nervous system as, in a manner to entitle them to be called nervous," and calls to mind the later utterances of Claude Bernard from a physiological standpoint that "the nervous system governs all of the chemical processes of the organization."

**MORBID EGOISM.**—GUTEAU.—Morbid Egoism is a prominent characteristic of the insane, displaying itself in every stage of their malady short of dementia. Their

self-feeling is revealed in their depression, self-abasement, exaltation, exhilaration, fear or fury. Their delusions generally pertain to self. The insane man is himself, generally, the grand or good, the ruined or lost personage of his morbid fancy; or, if he imagines other than himself to be God, angel, sage, prince or fiend, outcast, crushed, forsaken, he, or his, are the fated ones of the good or ill fortuné. He is the central point from which emerges, or towards which converges, the fancied weal or woe.

A morbid self-feeling is the beginning, and intensified, is the culmination, of active and acute mania.

The asylums for the insane are filled with personal confirmations of this fact, and the outside world, with its average of one insane person to every thousand (on the basis of one insane person to every five hundred people, and only one-half of the world's insane are in the asylums) has, likewise, its due proportion of egoistic maniacs, as well as its *morbid* egoists who have not reached, but are marching on to beyond, the border line which separates responsible from irresponsible insanity.

Brutus, publicly killing Cæsar in a most tragic manner, "not that he loved Cæsar less, but Rome more;" J. Wilkes Booth, the slayer of the good Lincoln, with *sic semper tyrannis* on his lips, a gleaming dagger not for use, but effect, in his hand, and an appalled and astonished audience before him, are examples of that morbid egoism which undertakes desperate deeds simply for the real or expected applause of their execution.

Mark Gray shooting at Edwin Booth during the progress of the play in a Chicago theater for an imaginary affront; poor Lawrenson seeking the life of President Jackson in the Capitol Grounds for "woes unnumbered," which he morbidly imagined the president had brought upon the country; poor pitiable Freeman, of Pautucket, in obedience to an insane impulse born of too much prayer and too little food and sleep, plunging the cruel blade into the simple, trusting heart of his own child, believing, in his blind fanatical egoism, that the God of Abraham would timely stay the insane blow, are, in greater or less degree, illustrations of insanity.

Last, but not least, the tragedian of the late Washington horror, who, without real grievance, selects a conspicuous place, seemingly that he might be "the observed of all observers" in a premeditated tragedy,

makes adequate preparations for his prompt escape and, apparently, for his safety from possible mob violence, and then proceeds in the tragic but dastardly, deliberate and remorseless manner to assassinate the beloved President of this free Republic.

To which category does Guiteau belong? Only the alienist expert, after due examination of all the facts, perhaps not yet known to the public, can satisfactorily answer this momentous question. Here is a life history ending in a tragedy to be judicially examined.

The career of the sane or insane man, from all the light yet thrown to the surface in this affair, may end, and has ended, in such tragedies. It is the hope of all patriots that only mania hath aimed and struck this foul blow. Is the wish father of the thought? Only time, and with it the revelation of all of Guiteau's psychical and physical life history can enable us to certainly say if the thought is only so founded, and if so unfounded in psychopathic influence.

Was Guiteau only a vain egoist, who, without the extenuation of disease, would remorselessly sacrifice a life of grand and priceless promise for the accursed notoriety to be gained by the tragic deed; had he an adequate imaginary grievance, founded in excusable cerebral disease, for the heinous crime? Was the *vis a tergo* of this atrocious act *morbid* or was it *motive*, are the grave questions which, when the good president's fate is no longer trembling in the uncertain balance, are to be dispassionately decided at the Capitol? Till then the cautious psychological expert, duly appreciative of the gravity of the question as to Guiteau's precise mental status and degree of responsibility must hold his decision in cautious abeyance. Sane men do often act like mad men and *vice versa*. Every madly appearing deed is not always the offspring of disease. Let us wait for all the facts and then we shall see clearly.

CONSCIOUSNESS IN EPILEPSIA.—Objection having been made by the *Chicago Medical Review* to the testimony of patients as to the fact of consciousness ever existing in epilepsy, because of the assumed unreliability of the patient's own testimony, we despair of ever convincing that journal of this clinical fact. To such as are too skeptical and so joined to their idol of unvarying unconsciousness in epilepsy as to discredit the most direct and reliable testimony, namely, that of the patient *himself*,

who is certainly the best judge as to whether he did or did not know anything during a seizure, such clinical facts as were presented in our last and appear in our present issue on this subject, are as "light shining in darkness, and the darkness comprehending it not."

Dr. Brinton, of the *Medical and Surgical Reporter*, takes a different view in an excellent three-column *resume* of the subject, in the number for June 11th, p. 668, to which we refer our readers. Contributions on this interesting and important subject, by Dr. T. L. Wright, of Bellefontaine, Ohio; James Finlayson, of Glasgow, Scotland; and Dr. Gonzales Echeverria, the world-renowned expert in epilepsy, are there abbreviated, and are of a convincing character. The facts concerning the protean phases of this chameleon-like disease, as demonstrable by clinical observation, show that its manifestations depend upon the extent, location and duration of the capillary spasm within the brain, the spasm may implicate the whole psycho-motor area of the cortex, in universal spasm and in subverted and unconscious mind, or it may involve only the psychical area, and be revealed in unconsciousness, or in mania, with or without consciousness. It may either *subvert* or only *pervert* mental or motor function. It may expend its force chiefly and exclusively in the psychical area, a fact not uncommonly recognized and conceded by all expert observers, or, *vice versa*, it may, *though only exceptionally*, expend its force on the motor area, leaving the psychical mainly undisturbed. Epileptic and epileptoid states are destined to explain some things "not yet dreamt of," except by a few advanced pathologists in our philosophy of pathologic states. The only remnant now remaining of a very obstinate and oft-recurring case of epileptic paroxysm referred to us some time ago by Dr. David Yandell, is a momentary pain that shoots through the cerebrum like a flash, from above downwards and back again, at the time of a former spasm, unaccompanied with unconsciousness or convulsion. In a large experience with aborted epilepsy, we have never before seen this precise sequel.

THE TENDON REFLEX AGAIN.—"Besides in the literature (Erb, Berger, Fisher, Hughes and others), we find single cases mentioned, in which there existed marked symptoms of tabes without the knee phenomena—patellar tendon-reflex. I have never seen it under these circumstances

(with the shuffling step, destruction of insensibility and muscular sense, etc.), and will venture to say that the absence of these phenomena has not yet been observed in mixed cases in which an autopsy has been held to verify the diagnosis. Till this is done it will be permitted to take those views with certain reservations."

The preceeding extract is from a paper by Prof. C. Westphal in the *Berlin Klin. Wochenschrift*, 1881, No. 1, entitled "*Ueber das Verschwinden und die Localisation des Kniephänomens.*"

Not a great many autopsies have been made in *tabes dorsalis* and such post-mortem examinations as have been made have revealed more extensive sclerosis than exists in the earlier stages of the malady.

It is in the early stage of *tabes*, if we read Dr. Westphal aright that he regards the sign of most value in diagnosis.

It is not the *value* of the sign that we discredit, but its *infallibility* which depends upon the extent and location and intensity of the lesion, and is not confined exclusively to sclerosis of the posterior root zones, but coexists with other morbid states above the cord and may be absent in sclerosis above the fifth inter-vertebral space. In the case detailed by Prof. Westphal, he found the "*knee phenomenon normal at different times during its progress*" towards a fatal termination. Death resulted from intestinal complication, but *post-mortem* revealed a lesion limited to the posterior root zones, and posterior lateral regions of the cord, the posterior root and columns of Goll being healthy.

Now, either the sclerosis of the posterior root zones disappeared, which is improbable, or the *infallible sign* (?) was absent while the disease was present, which we think quite probable and demonstrable, unless all the other aggregated signs fail in *tabes dorsalis*.

NERVE SECTION AND NERVE STRETCHING FOR TETANUS would seem to be rational procedures in this formidable affection, the former especially at that period when the treatment may be classed as prophylactic, *i.e.*, before the peripheral irritation has excited those marked molecular changes in the cord which reveal themselves in tetanic spasm; the latter remedy would appear to be, and has been more particularly beneficial after the incubative stage has merged from latency into appreciable morbid activity.

Erlenmeyer's idea, set forth in the translation of his interesting paper in this and the preceding number of the *ALIENIST AND NEUROLOGIST*, in regard to the value of nerve stretching as a therapeutic measure, designed to act on the central lesion in *tubes* and the same procedure in certain persistent neuralgias of central origin, is in accordance with physiological and pathological proofs, as to the effects of terminal nerve excitations on producing central molecular changes in the cord.

Onimus has most clearly shown that peripheral irritation of the sciatic nerve exerts a greater influence on the nerve center than excitation of the terminal end of any other of the peripheral nerves. Greater influence is exerted even over the calibre of the cerebral vessels through irritation of the sciatic than through any other nerve, not even excepting the cerebral sympathetic, under certain circumstances of excitation.

Surgeon Major J. J. L. Ratton, in *Brain*, for January, 1880, after reiterating the generally received view that traumatic tetanus is a central change brought about by peripheral excitation, and adding what is not so generally believed and what is *much more difficult to prove*, that there is no such thing as idiopathic tetanus, recommends early section of the afferent nerve, whose terminal end is so injured as to threaten tetanus and for the later stages refers to "stretching a large nerve trunk (e. g. the sciatic), and making traction on the cord, as having been tried and followed by marked success. Here is a new field for Langenbuch, Esmarch, Erlenmeyer, Gillette, Debove and Charcôt.

The internal therapeutic measure are also confirmatory of the pathological and anatomical demonstrations.

THE PATHOLOGY OF DELUSIONS.—"Since Brierre de Boismont, in 1853, then in accord with the majority of the Faculty, asserted that no satisfactory result could be obtained from post-mortem examinations of the insane with regard to hallucinations (delusions), and that their pathological anatomy has yet to be made, many proofs have been furnished of definite cerebral changes causing them, consisting mainly of altered vascularity in the cortex (hyperæmic and anæmic states), hemorrhagic foci and the sequences of these conditions, hypertrophy, atrophy, softening and sclerosis." *M. Luys (Gazette des Hopitaux, 1880, No. 142)* goes again over the ground of his predecessors and locates the morbid excitants of hallucination

and delusion mainly in the thalami optici and anterior lobules of the cortex. In acute forms, he finds, as has often been found before, active hyperæmia. In chronic hallucination and delusion, he finds evidences of chronic hyperæmia, long standing congestions in the central gray matter of the optic thalami and third ventricle and various parts of the cortex.

The most notable facts in M. Luy's researches are unilateral location of the lesions noted in many cases which he had observed to correspond with sane mental states, associated with hallucination. While there is not much especially new in M. Luy's researches, they are valuable as additional confirmation of old facts, and as further supportive of the now generally acknowledged physical basis of psychical disease.

NITRITE OF AMYL in the Prophylaxis and Arrest of Epileptic Convulsion and in the Improvement of Imbecility.—We have before called attention in these pages to the value of this valuable agent for certain diagnostic purposes, and for the improvements of tardy or arrested cerebral development. Continued employment of the amyl nitrite serves to further confirm our faith in the conviction of former experience.

Our method for convulsion is to put a drachm of amyl nitrite in a two inch long, three drachm vial, placing a small sponge between the liquid and the cork, instructing the parent or attendant to keep the vial always accessible in the pocket, and upon the first sign of approaching spasm to withdraw the cork and apply to the nostril a sufficient time to slightly suffuse the face, and to adopt the same method shortly before the time of the expected paroxysm, and several times a day when convulsive recurrences are frequent.

We have had the most satisfactory results, with old and young by this method, especially in those epileptics whose paroxysm occur on or shortly after retiring, or during sleep, and immediately on waking in the morning.

It is important for the neurologist, especially, to make a prompt and decided impression on these cases from the beginning, and this for some time has been our plan, or before the disease is brought under full control by other treatment.

We promise our readers an interesting confirmatory record when leisure permits, if in the meantime, cases from other sources in confirmation are not furnished.



The dose of the amyl nitrite *should be regulated by the effect produced rather than quantity, provided the inhalations are very brief. A few seconds only* for an inhalation, and not oftener repeated than every six hours.

THE MAINE INSANE HOSPITAL.—“The old, old story.”—*To the Honorable the Senate and the House of Representatives :*

The undersigned, a committee of your honorable bodies, charged with the annual examination of the Insane Hospital, have the honor to report that, in the progress of their examination of said institution, early in the session, it became apparent that there were current vague rumors affecting the standing and usefulness of the hospital.

It is with much pleasure that we have observed the tranquility with which the friends of patients have viewed the investigation, undisturbed by sensational reports in newspapers from other States, and undismayed by the tales of discharged servants and disappointed men, they have, almost without exception, calmly awaited the verdict of your Committee at the close of the investigation. To these friends and the people of Maine, your honorable bodies may unhesitatingly commend the Maine Hospital as entirely worthy of their confidence and support.

All of which is respectfully submitted.

(Signed by the)

COMMITTEE.

CORRECTION.—In our review of Dr. Bucknill's vigorous little book on “*The Care of the Insane and their Legal Control*,” in the October, 1880 number of this journal, we inadvertently attributed to him, and criticised language not to be found in his book, expressing sentiments which we are well assured Dr. Bucknill does not entertain.

We allude to the following: “To be pronounced insane” (*does not*) “mean imprisonment for months, for years or for life, or to put it in another way, that there is a disease which reduces its victims to a level with persons accused of crime and exposes them to loss of liberty and happiness.” In the same sense that a criminal's liberty and happiness are taken from him that is not true. The restraint of the insane is in no sense penal, etc.

The words quoted were spoken elsewhere by another writer, and we cannot explain how we came to associate them with Dr. Bucknill, for to compare the modified liberty of the insane to penal restraint is not compatible with Dr. Bucknill's vast and long experience in psychiatry.

We cheerfully make the *amende honorable*.

CORRECTION.—The conclusion of our paper, in the April number, entitled "Clinical Notes Illustrative of Consciousness in Epilepsia," should read thus:—

"A more or less prolonged state of central non-impressibility to excitation—a delayed mental activity and tardy response to peripheral impressions which, ordinarily, promptly excite the ideo-motor centers of the cortex into action—one or all together, characterize epileptic seizures."

WHILE ATTENDING the meeting of the Medical Superintendents of American Institutions for the Insane, at Toronto, Canada, we were gratified to notice Wm. P. Townsend, Esq., Manager of Dixmont Insane Hospital, Pa., Dr. Godfrey, Trustee of the Dayton, Ohio, Asylum and D. A. Ogden, Esq., Trustee of Williard Asylum, New York, present and evidently interested in the proceedings. These gentlemen were requested by a unanimous vote of the Association to take seats as corresponding members, and manifested their appreciation of the compliment thus tendered by mingling and conversing freely with the medical gentlemen and acquiring all possible information in regard to the management of the several institutions represented.

If the hospitals for the Insane had a larger proportion of such gentlemen as Messrs. Townsend and Ogden in their Boards of Managers, the prosperity and high character of these institutions would be more certainly secured.

ONE OF DR. ISAAC RAY'S LAST CONVERSATIONS was upon the future welfare of the insane of this country, and one of his last acts, indicative of his great and never wearied interest in the welfare of the mentally afflicted, was to provide out of his own purse that they might have more light. "Through the liberality of Dr. Ray," states Dr. Sawyer in his late report of Butler Hospital (the institution over which Dr. Ray once so ably presided), "we have been enabled to make a great addition to the attractiveness of the house and the comfort of the patients by the erection of a bay window in one of the wards."

Let it be inscribed upon his monument that while his life was spent in successful efforts to enlighten mankind in regard to insanity, and the rights and welfare of the insane, he was not unmindful of the bodily wants of these children of affliction, for he gave them more light.

THE INTERNATIONAL MEDICAL CONGRESS to be held in London, from August 2d to August 9th, promises, from the preparations of which we are advised, and information

in regard to the prospective attendance of distinguished *savants*, as well as from the active and zealous interest and efforts of so large a proportion of the most eminent medical gentlemen of Great Britain, to be a meeting of unusual and unprecedented interest, pleasure and profit, to all who may attend. Dr. Geo. H. Savage is making most unwearied and commendable efforts to make the psychiatric and neurological section, of which he is the secretary, especially profitable and entertaining.

THE RECOGNITION OF THE SYPHILITIC PSYCHOSES.—Eight years ago, Dr. W. E. Ford, of Utica, assistant physician of the N. Y. S. L. A., accompanied a history of five cases of syphilitic insanity, observed in that institution, with the remark that "syphilitic insanity has received comparatively little attention, and the literature of the subject is scanty, indeed. It has been only within thirty years that syphilis has been believed capable of producing disorders of the brain and nervous system."

How great has been the advance since then, the works of Fournier, Dowse and others abundantly attest.

TAMBURINI'S illustrations (*Revista Sperimentale*) of a case of hydrocephalus is a beautiful pathological confirmation of the physiological account of the development of the convolutions of the cerebral cortex. Compare the unfolding of these convolutions from the inward pressure of the distended ventricle, with the folding in process described and illustrated by Clevenger, of Chicago, in the *Journal of Nervous and Mental Diseases*.

THE "WEAK PUN" complained of by the *Chicago Medical Review*, in our last number was as *strong* as the subject would allow, and whatever degree of mental aberration may have been discernible to the *Review* was due solely to the *morbid exciting* cause. We are sorry to see the *Review* so stirred up by so "weak" a *puns-ter*. It is better to be punny than puny.

THE BEGINNING of disintegration in hospital government (for sane or insane) is inaugurated when assistant physicians (with limited experience, either male or female) are made quasi independent medical heads or superintendents. Attendants "cannot serve two masters, either they will despise the one," etc.

ONE of our cotemporaries think the prospective results of Battey's operation to the human race are *beyond conception*.

GHEEL.—Dr. Pechers, of Gheel, in his medical correspondence upon the subject of the cottage system of treating the insane, declares that the most efficient means of treatment is after all the moral treatment. In Gheel the patients enjoy the advantages of liberty and of domestic influence, besides the wholesome effect of seclusion from other insane patients. He denies the charges brought by some against the system to the effect that Gheel was becoming more and more like an asylum. In September, 1880, the colony numbered 1600 patients, and the infirmary contained only 35 patients, none of whom are allowed to remain long. Accidents are very rare. One case of suicide had occurred in 1879. In seven years only three female patients became pregnant. No attendant had been dismissed for maltreatment of patients, and no cases of murder or arson had occurred. In Belgium the system was certainly the cheapest. Figures prove that the cost of treating the insane at Gheel is less than that in any asylum.—[*Centralblatt fuer Nervenheilkunde, &c.*, Feb. 1st, 1881.]—Saunders.

THE DELUSION OF DOUBLE PERSONALITY has often been invoked in confirmation of the duality of the cerebral operations. *Descourtis*, in the initial number of *L'Encephale*, cites two clinical illustrations. Both were males, aged respectively 34 and 48 years of age, and both in the second stage of paresis. The former one had megalomania, which finally terminated in complete dementia; the other had illusions limited to one hemisphere, and which he could produce or stop at will—the patient had intellectual hebetude. The first patient mentioned held conversations with a second self within him. Of course but one-half of the conversation could be heard.

These cases, illustrative of the dual functions of the brain, are by no means rare, a number of them having been recorded. In the *American Journal of Insanity*, 1875, Vol. xxxii, p. 185, Dr. C. H. Hughes in an interesting article on the vicarious function of the cerebral lobes and hemispheres, considered in relation to unilateral wounds of the cerebrum, and the delusion of double personality in the insane, records a case occurring in his care, at the asylum at Fulton as follows:

J. P. M., the patient, 25 years old and unmarried, before passing into a state resembling dementia, insisted that he had two brains, the anterior one of which was always impelling him to do evil; it frequently got the better of

him, and then he would attempt acts of violence. He had incessant frontal headache and masturbated, as a result, rather than the cause of insanity. Dr. Hughes quotes also a similar case from Dr. Joffa, and Dr. Landor of the London, Ontario, Asylum, who wrote to Dr. Hughes of a similar patient, aged 35.

"He carried on conversations with an imaginary person inside of him. He would quarrel and end by striking his *left* face, nose and eyes with his *right* arm."

Wigan, Holland, Brown-Sequard, Luys and many others have experimentally established the duality of the cerebral operations, and have contributed such facts as the above to strengthen the foundation upon which this truth rests; so that, all clinical facts supporting this view must be regarded as valuable. They also seem to offer some possible explanation for the vicarious action of one hemisphere, as witness the case of P. P. Gage, related by Dr. Harlow, of Maine, and many other similar cases which have occurred since.—*Ohmann-Dumesnil*.

LISTERINE seems to us worthy of a trial, from its agreeable odor and the character of the firm that introduces it to the notice of the profession. Dr. Wm. Porter, of St. Louis, thus speaks of it from experience:—

Listerine, being a *non-irritating* solution of pleasant odor, readily diluted, is well adapted for use either by spray or in a more condensed form, as desired. In the treatment of diseases of the air passages, where an antiseptic is indicated, I fine it the *best substitute* for carbolic acid, phenol and other remedies of the same class.

THE REFLEX effect of a pun on some persons is remarkable. No sooner are they struck by one than a suggestion of dementia or arrested development arises in their minds. The reflex effect is different if the pun is on some other fellow.—*Vide Chicago Medical Journal*.

THE *New York Medical Journal* discerning the spirit of the times, which demands some special feature in all medical journals, will henceforth appear as the *New York Medical Journal and Obstetric Review*.

SUGGESTIONS toward a plan for organization of medical societies in the July number of Dr. Brinton's *Medical and Surgical Reporter* is good reading, and meets our cordial approval.

WHAT ARE OUR GREAT MEN DOING?—While *Charcot* compresses an ovary and produces hystero-epilepsy, *Kussmaul* squeezes the testicle and cauces a spasm quite *akin* to it.

THE REVIEWS are unavoidably crowded out in our haste to get the JOURNAL ready for the European mail, in time for the International Congress.

## HOSPITAL NOTES.

DR. EDWARD C. MANN has reopened an office in the "Army and Navy Club House," New York city, for consultation in *Psychiatry and Neurology*. He still retain his connection, however, with his retreat at "*Sunnyside*." The article on "Chorea" will be reproduced in Dr. Mann's forthcoming work on mental and nervous diseases.

DR. RALPH L. PARSONS, so long connected in the capacity of physician and chief and superintendent with one of the leading hospitals for the insane of New York city, offers his services to the public at *Greenmont*, where he has established a home for a limited number of nervous invalids. The special features of his establishment and also those of Dr. Mann's, are set forth in our advertising pages.

DR. R. A. GIVEN, at Clifton Heights, near Philadelphia, continues to call attention to his *private hospital for mental and nervous diseases*, so long and favorably known to the profession and people of that section. The death of Dr. Isaac Ray, makes a void in the consulting staff of this hospital which will be hard to fill.

DR. IRA RUSSELL's *family home* of the same character as the preceding, located at *Wichendon*, Massachusetts, and BELLEVUE PLACE near *Batavia*, Ills., under the charge of DR. R. J. PATTERSON, also claim the attention of the profession who may have to advise concerning certain insane and nervous persons, and of the *non-professional* who may have to provide for such patients.

The institutions are all worthy of confidence, their respective superintendents being well qualified by large experience in practical psychiatry to properly "minister to minds diseased," and to successfully treat such disorders of the nervous system.

While possessing many features in common, each has some special excellence, and we advise our readers to become acquainted with them all.

Dr. Patterson's, Dr. Chapin's and Dr. Russell's announcements also appear in our advertising pages.

A. H. WITMER, first assistant physician of the Government Hospital for the Insane, has gone to Europe. Dr.

Chapin, superintendent of the Willard Asylum, and Dr. Jno. P. Gray, of the Utica, New York Asylum, are there also.

DR. A. K. HINES, has retired from the position of first assistant physician at Missouri State Lunatic Asylum No. 1, Fulton, Missouri, and Dr. Wilkerson succeeds him.

DR. D. D. RICHARDSON has been re-elected physician-in-chief of the insane department of the Philadelphia Hospital after seventeen years' service in that institution, and will give up his present position at Warren to go back there in attestation of his appreciation of the flattering compliment.

Dr. Jonn Curwen, of Harrisburg, for thirty years in charge of the hospital there, succeeds Dr. Richardson at Warren, Penn., and will enter on the discharge of his new duties early in the present month. The trustees of Warren have made a wise selection.

ARKANSAS is to have an insane asylum to cost \$150,000. Better begin late than never to do justice to the insane. The appropriation ought to have been \$500,000.

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#### BREVITIES FROM THE ASYLUM REPORTS.

ILLINOIS, Kankakee.—When the present report was written, this hospital had been in operation but ten months, so that the daily average number under treatment was small, 82.9.

The State of Illinois, in inaugurating this institution, pushes to the front, with the most advanced and liberal methods of providing for the insane. The entire subject is discussed at length, but the gist of it is contained in the following extract:

"It is well to say here, that this hospital, while seeking the good results usually accomplished by such institutions, is especially committed to a course of careful experimentation and effort in the direction of determining:

"*First.* How moderate the expense of erecting suitable buildings for the insane can be made.

"*Second.* Whether occupation which will be beneficial in every sense cannot be secured for a majority of the patients.

"*Third.* To what extent the rigor of confinement and restraint can be removed, and a natural and somewhat domestic mode of life be introduced among our patients.

"It was with such aims as these in mind that many members of the legislature favored the building of a new State hospital, that the board of charities gave their approval to the measure, and that your board entered upon the discharge of the difficult duties of your position. For myself, as the executive officer of the hospital, I will say that I have long looked forward to advancement in these matters, as published utterances will show; and my convictions are such, that if I should fail, as far as my individual responsibility extends, to accomplish decided results in these directions, it would still be my belief that ample success is in store for abler or more fortunate men.

Progress and improvement are just as possible in providing for the insane and constructing their abodes as in other departments of public charity; and yet there are difficulties to be met at every forward step which do not present themselves in all the other departments of charitable work."

INDIANA, Indianapolis.—Total number under treatment during year, 1,543. Discharged during year 533, as follows: recovered, 262; improved, 69; unimproved, 34; died, 146; not insane, 8; idiotic, 6; eloped, 8.

This is an elaborate and rather voluminous report, giving a complete analysis of the tabulated statistics. The mortuary table shows that in many cases the diagnosis previous to death was verified by post-mortem examination. Reference at length is made to the medical treatment of patients and the remedial agents used. The present State law regulating lunacy inquests is justly dissected, and a modern and apparently good statute is proposed.

MICHIGAN, Pontiac.—Total number under treatment during year, 669. Discharged during year, 226, as follows: recovered, 54; improved, 79; unimproved, 40; died, 51; not insane, 2.

This of all the reports is the most elaborate and exhaustive. The trustees give a full and detailed account of the work performed by them, and with the steward, gives an itemized account of all receipts and expenditures, while Dr. Hurd gives a complete analysis of the usual tables of statistics, and presents to the people of Michigan, and to all persons in whose hands this report may fall, a comprehensive treatise upon insanity, including nomenclature and classification, with a brief synopsis of



the various forms of insanity, and the most advanced methods of treatment, medicinal, moral and hygienic.

MISSISSIPPI, Jackson.—Total number under treatment during year, 498. Discharged during year, 103, as follows: recovered, 47; improved, 4; unimproved, 4; died, 44; eloped, 4.

The relative curability and susceptibility of the colored race is a question that requires the attention of persons interest in the specialty, particularly in the Southern States, where their number exceeds the whites, and where the condition of the race has been so revolutionized during the past twenty years. Dr. Mitchell has evidently given the subject serious thought, and, without extended statistics, gives it as the result of his investigation that the colored people are much less liable to attacks of insanity, but suffering from the disease, recovery is less likely to occur than in white people; this is in great part due, he thinks, to their peculiarly emotional natures and religious instincts.

The remarks upon amusements for the insane and their application as remedial agents are true and logical.

MARYLAND, Catonsville.—Total number under treatment during the year, 486. Discharged during the year, 124, as follows: recovered, 43; improved, 28; unimproved, 12; died, 41.

Dr. Gundry, though laboring under a multitude of disadvantages keeps pace with the modern requirements of hospital management and the treatment of the insane. After enlarging upon the moral and hygienic benefits derived from judicious employment, a very good record is given of the amount of labor performed by the patients.

MASSACHUSETTS, Danvers.—Total number under treatment during year, 1,114. Number discharged during year, 507, as follows: recovered, 165; improved, 106; unimproved, 151; not insane, 2; died, 83.

The subject of choosing a superintendent to fill the vacancy caused by the resignation of Dr. May engrossed the thoughts of the Trustees at the writing of this report.

The paragraph on restraint is quoted in full. "At the time of writing, the only form of mechanical restraint in use is leather wristlets, worn by four patients, all of whom have lately made violent attacks upon their attendants. The crib beds have been removed to the cellar, as there is at present no one requiring such

restraint, which is, however, an admirable means of treatment in special cases."

Dr. W. B. Goldsmith, First Assistant at Bloomingdale, was elected Superintendent and assumed charge March 1st, 1881. Dr. H. B. Stedman, Assistant Superintendent, acted as Superintendent after the resignation of Dr. May, in August, 1880.

Northampton.—Total number under treatment during year, 559. Discharged during year, 113, as follows: recovered, 28; much improved, 12; improved, 23; unimproved, 19; not insane, 2; died, 29.

This report is so replete with valuable information to all persons interested in the subject of insanity that we recommend it to the reader as a production worthy of attention, particularly the "studies relative to the curability of insanity."

Worcester.—Temporary asylum for chronic insane. Total number under treatment during year, 413. Discharged during year, 40, as follows: improved, 6; unimproved, 11; died, 23.

Dr. Quinby is of the opinion that an almshouse, no matter how well regulated, cannot, under any circumstance, be the *best* place for insane persons, and thinks the trifling difference in expense should not be a factor in the problem of providing for the insane.

In this institution the employment of patients evidently receives attention, not only in the wise stimulation of those to work who are able, but in a patient effort to educate those who by their enfeebled mental condition or general lack of habits of industry, have apparently lost all interest in the daily affairs of life.

NEW JERSEY, Morristown.—Total number under treatment during year, 687. Discharged, 101, as follows: recovered, 17; improved, 46; unimproved, 3; died, 35.

Dr. Buttolph, who is always happy in detailing the movements of his patients and the operations of his institution, this year comments concisely upon the classification, employment and amusement of the insane.

It would be well for society in general, and the patients in particular, if the doctors' laconic reference to the subject of removing from home could be read by all who think that insane persons can *as a rule* be cared for away from hospitals.

NEW YORK—Willard Asylum.—Total number under treatment during year, 1782. Discharged during year,

154, as follows: recovered, 16; improved, 39; unimproved, 9; died, 89; not insane, 1.

Dr. Chapin presents us with a valuable report, not only of his hospital, but in his treatment of the subject of employing the insane in America and Europe, more particularly in England, and in the manner in which he enlarged under the head of "Medical Observations" upon the subject of insanity, its origin, treatment, curability and burden upon the tax-payer and public generally.

Willard can no longer be regarded as an experiment, and Dr. Chapin has probably done more to improve the condition of the indigent insane in this country than any one individual in the United States or Canadas.

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## MORTUARY.

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Dr. J. C. HAWTHORNE, late superintendent of the Oregon Asylum for the insane, died on February 16th, aged 62 years. He was born in Meadville, Pa., and moved to California in 1850, thence in 1857 to Portland, where in the following year he and Dr. Loryea took charge of the county hospital, and subsequently of the State's insane, being the first to treat the insane of Oregon in an official capacity. His late official reports indicate a true appreciation of the exalted work he was engaged in, and ought to exercise a good influence on the legislation of the State in regard to the insane.

His abilities were good in his chosen sphere and he was much esteemed as a citizen and physician of his adopted State.

Dr. J. DAVIS THOMSON, junior, Assistant Physician to Mt. Hope Insane Asylum, died of chronic diarrhœa, on the 14th of June, aged 45. He was a native of Frederick county, Md., and a graduate of the University of Maryland, of the class of 1861. During the war he served in the Confederate Army. He was one of the surgeons of the Northern Central, Baltimore and Potomac, and Western Maryland Railroads. He was an upright and conscientious man, a skillful physician and surgeon. He contributed interesting papers on dipsomania and insanity.

# PROCEEDINGS OF THE THIRTY-FIFTH ANNUAL MEETING OF THE ASSOCIATION OF MEDICAL SUPERINTENDENTS OF AMERICAN INSTI- TUTIONS FOR THE INSANE.

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The Thirty-Fifth Annual Meeting of the Association of Medical Superintendents of American Institutions for the Insane was called to order at 10 A. M. of Tuesday, June 14th, 1881, by Dr. John H. Callender, Vice-President, in the absence of Dr. C. A. Walker, President. The following members were present during the sessions.

J. B. Andrew, M. D., Buffalo State Asylum for the Insane, Buffalo, N. Y.

Randolph Barksdale, M. D., Central Lunatic Asylum, Richmond, Virginia.

J. W. Barstow, M. D., Sanford Hall Asylum, Flushing, N. Y.

H. Black, M. D., Eastern Lunatic Asylum, Williamsburg, Virginia.

Robert M. Bucke, M. D., Asylum for the Insane, London, Ontario.

W. O. Bullock, M. D., Eastern Lunatic Asylum, Lexington, Kentucky.

D. R. Burrell, M. D., Brigham Hall, Canandaigua, N. Y.

A. P. Busey, M. D., Assistant Physician Lunatic Asylum No. 2, St. Joseph, Missouri.

J. H. Callender, M. D., Tennessee Hospital for the Insane, Nashville, Tennessee.

H. F. Carriel, M. D., Central Hospital for the Insane, Jacksonville, Illinois.

Daniel Clark, M. D., Asylum for the Insane, Toronto, Ontario.

John Curwen, M. D., Harrisburg, Penna.

James H. Denny, M. D., Boston, Mass.

R. S. Dewey, M. D., Illinois Central Hospital for the Insane, Kankakee, Illinois.

Orpheus Everts, M. D., Cincinnati Sanitarium, College Hill, Ohio.

A. M. Fauntleroy, M. D., Western Lunatic Asylum, Staunton, Virginia.

Theodore W. Fisher, M. D., Lunatic Hospital, Boston, Mass.

T. M. Franklin, M. D., New York City Lunatic Asylum, Blackwell's Island, N. Y.

R. H. Gale, M. D., Central Kentucky Lunatic Asylum, Anchorage, Kentucky.

J. Z. Gerhard, M. D., Pennsylvania State Lunatic Hospital, Harrisburg, Penna.

Wm. B. Goldsmith, M. D., Danvers Lunatic Hospital, Danvers, Mass.

John P. Gray, M. D., State Lunatic Asylum, Utica, N. Y.

Richard Gundry, M. D., Maryland Hospital for the Insane, Catonsville, Maryland.

C. H. Hughes, M. D., St. Louis, Missouri.

Henry M. Hurd, M. D., Eastern Michigan Asylum, Pontiac, Michigan.

A. E. Macdonald, M. D., City Lunatic Asylum, Ward's Island, N. Y.

H. P. Mathewson, M. D., Nebraska Hospital for the Insane, Lincoln, Nebraska.

W. G. Metcalf, Asylum for the Insane, Kingston, Ontario.

Charles A. Miller, M. D., Longview Asylum for the Insane, Carthage, Ohio.

Jos. A. Reed, M. D., Western Pennsylvania Hospital for the Insane, Dixmont, Penna.

A. P. Reid, M. D., Hospital for the Insane, Halifax, Nova Scotia.

Joseph G. Rogers, M. D., Indiana Hospital for the Insane, Indianapolis, Indiana.

F. E. Roy, M. D., Lunatic Asylum, Quebec.

H. C. Rutler, M. D., Columbus Asylum for the Insane, Columbus, Ohio.

John W. Sawyer, M. D., Butler Hospital for the Insane, Providence, R. I.

J. Strong, M. D., Cleveland Asylum for the Insane, Cleveland, Ohio.

B. R. Thoms, M. D., Colorado State Asylum for the Insane, Pueblo, Colorado.

H. A. Tobey, M. D., Dayton Asylum for the Insane, Dayton, Ohio.

J. M. Wallace, M. D., Asylum for the Insane, Hamilton, Ontario.

Joseph Workman, M. D., Toronto, Ontario.

The following gentlemen were also invited to attend the meetings of the Association:

Mr. J. W. Langmuir, Inspector of Asylums and Prisons of Ontario.

Mr. D. A. Orden, Trustee of the Willard Asylum, Willard, N. Y.

Mr. W. P. Townsend, Manager of the Western Pennsylvania Hospital for the Insane, Dixmont, Penna.

Dr. Godfrey, Trustee of the Asylum for the Insane, Dayton, Ohio.

Dr. Fulton, Editor of the Canada *Lancet* and professor in Trinity Medical College.

Dr. Wm. Canniff, President of the Medical Association of the Dominion of Canada.

Dr. Graham, of the Senate of the University of Ontario.

Dr. Grant, of Ottawa, member of the Medical Council.

Dr. A. H. Beaton, of the Orelia Asylum for Idiots.

On motion of Dr. Gray, the reading of the minutes of the last meeting was dispensed with.

On motion of Dr. A. E. Macdonald it was

*Resolved*, That the members of the medical profession of Toronto and any physicians connected with institutions for the insane who may be in the city, be invited to attend the meetings of the Association.

Dr. Curwen read a biographical sketch of the late Dr. Isaac Ray, prepared by Dr. Kirkbride, and offered the following resolution, which was on motion unanimously adopted:

*Resolved*, That Dr. Kirkbride be requested to prepare a memoir of the late Dr. Isaac Ray, to be inserted in the proceedings of the Association.

Dr. J. B. Andrews offered the following resolution, which was, on motion, adopted :

*Resolved*, That Dr. John P. Gray, of Utica, N. Y., and Dr. John B. Chapin, of Willard, N. Y., be appointed delegates from this Association to the International Medical Congress to be held in London, England, in August next, and also to the British Medico-Psychological Association, and that the Secretary of the Association be hereby directed to furnish the necessary credentials of their appointment.

On motion the name of Dr. C. H. Hughes of St. Louis was added to the above Delegation.

The Committee of Business made the following report, which was, on motion, adopted : That, on

*Tuesday*, June 14th, the Association hold sessions from 11 A. M. to 1 P. M., and from 3 P. M. to 6 P. M., for reading of papers and discussions.

*Wednesday*, June 15, hold sessions from 10 A. M. to 1 P. M., for reading and discussion of papers. At 1:30 P. M., visit the Central Prison ; at 2:30 P. M., visit the Mercer Reformatory ; at 3:30 P. M., visit the Toronto Asylum for the Insane ; at 5 P. M., attend a dinner at the Rossin House.

*Thursday*, at 10 A. M., visit Osgood Hall, Toronto University and General Hospital ; at 1:30 P. M., hold a meeting for reading and discussion of papers ; from 4 to 6 P. M., attend a reception at the Government House ; at 8 P. M., an excursion on the lake.

*Friday*—Meet at 10 A. M. for reading and discussion of papers.

The Secretary read letters from Drs. Bancroft, Eastman, Godding and J. B. Chapin, regretting their inability to attend the meeting. Also from Dr. S. E. Josephi, announcing the death of Dr. J. C. Hawthorne. Also a letter from Dr. D. Hack Tuke, of England, acknowledging his election as honorary member of the Association.

On motion of Dr. Curwen, the letter of Dr. S. E. Josephi, in regard to Dr. J. C. Hawthorne, was directed to be entered in the minutes.

Dr. Curwen invited the Association to hold the meeting in 1882, in the State Hospital for the Insane, at Warren, Pennsylvania.

The President announced the following standing committees :

To Audit the Treasurer's Accounts—Dr. Andrews, of New York ; Dr. Roy, of Quebec, and Dr. Tobey, of Ohio.

On Time and Place of Next Meeting—Dr. Barksdale, of Virginia ; Dr. Rogers, of Indiana and Dr. Thombs, Colorado.

On Resolutions, etc.—Dr. A. E. Macdonald, of New York, Dr. Gale, of Kentucky and Dr. Hughes, of Missouri.

The President of the Association laid before the Association a communication from the Board of Trustees of the State Lunatic Hospital of Pennsylvania, which was read by the Secretary to the Association of Medical Superintendents of American Institutions for the Insane :

Lancaster, Penna., June 2, 1881.

GENTLEMEN:—

At a stated meeting of the Board of Trustees of the State Lunatic Hospital, at Harrisburg, Penna., in April, 1880, it was resolved that a female physician be elected to take exclusive charge of the medical treatment of the patients in the female department of the Institution ; and

Margaret A. Cleaves, M. D., was duly chosen to fill that position. Since September 1st, 1880, Dr. Cleaves, aided by Jane K. Garner, M. D., faithfully performed her duties to the benefit of the patients, and to the satisfaction of the Board of Trustees; and, at their request, desires to attend the meeting of the Association.

Respectfully yours,

JOHN L. ATLEE, M. D.,

DANIEL EPPLEY, Sec'y.

Pres't of the Board.

On Motion of Dr. E. A. Macdonald, it was

*Resolved.* That, inasmuch as the subject matter of the communication is covered by the resolution previously adopted, this communication be received and laid on the table.

This resolution was unanimously adopted.

Dr. Everts read a memorial of Dr. W. S. Chipley, deceased, which, on motion, was directed to be entered on the minutes of the Association.

Dr. Miller read a memoir of Dr. Joseph T. Webb, deceased, which was ordered to be entered on the minutes.

On motion, the Association adjourned to 3 P. M.

The Association was called to order at 3 P. M. by Dr. Callender.

Dr. Andrews, from the Committee to audit the accounts of the Treasurer, reported that they had attended to that duty, found the accounts correct, and a balance of \$168.98 in the hands of the Treasurer, and recommended an assessment of one dollar for this year.

The report was received and adopted.

Dr. Clark stated that the New England Society of Toronto were desirous of extending certain courtesies to the members of the Association.

On Motion of Dr. Gale, it was

*Resolved.* That the invitation of the New England Society be accepted for Friday afternoon.

Dr. Black then read a memoir of the late Dr. Robert F. Baldwin, which was ordered to be entered in the minutes.

Dr. Everts then read a paper on the "American System of Public Provision for the Insane, and Despotism in Lunatic Asylums."

Dr. Workman read a paper on some points in the management of American Institutions for the Insane.

The discussion of these papers was begun and continued by the members until a motion was made to adjourn to 10 A. M. of Wednesday.

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JUNE 15, 1881.

The Association was called to order at 10 A. M., by Dr. Callender.

The minutes of the proceedings of yesterday were read and approved.

The Secretary read a letter from Dr. T. J. Mitchell, expressive of his regret at his inability to attend this meeting.

The discussion of the papers of Drs. Everts and Workman was resumed and concluded, and the papers then laid on the table.

After the transaction of some other unimportant business, the Association on motion, adjourned to 10 A. M. of Thursday.

The Association spent the afternoon in visiting the Central Prison, the Mercer Reformatory and the Toronto Asylum for the Insane.

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JUNE 16, 1881.

The Association spent the morning in visiting Osgood Hall, the University of Toronto, and the General Hospital, and was called to order at 1:30 P. M., by Dr. Callender.

Dr. Gray gave an invitation to the Association to meet at Utica, N. Y., at such time as the Association may determine.

On motion of Dr. Gray, Dr. C. Lochhart Robertson, of England, and Dr. A. Motet, of Paris, were elected honoary members of the Association.

On motion of Dr. Gundry, Dr. A. Tamburini, of Italy, and Dr. T. S. Clouston, of Scotland, were elected honorary members of the Association.

Dr. Hughes read a paper on "Chephalic and Spinal Electrization."

Dr. Hurd read a paper entitled "A Plea for Systematic, Therapeutical, Statistical and Clinical Study of Mental Disorders."

Dr. Fauntleroy related a case of extensive injury to the brain from a gun wound without any mental disorders.

Dr. Barksdale related a case of extraordinary size of the brain and skull in a negro man under his charge.

Dr. Miller invited the Association to hold their next meeting in 1882, in Cincinnati, Ohio.

On motion, the Association adjourned to 10 A. M., Friday, June 17.

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JUNE 17, 1881.

The Association was called to order at 10 A. M. by Dr. Callender.

The minutes of the session of yesterday were read and approved.

Dr. Gundry read a paper on "Separate Institutions for Certain Classes of the Insane," which after discussion was laid on the table.

On motion of Dr. Gundry, the subject of the paper was referred to a committee to report at the next meeting of the Association.

Dr. Hurd then read a paper containing a report of a case with post-mortem appearances, which after discussion was laid on the table.

Dr. Barksdale, from the Committee on the Time and Place of Next Meeting reported Utica, N. Y., as the place, and the twenty-third of May, 1882, as the time.

Dr. Miller moved to substitute Cincinnati, Ohio, for Utica, N. Y., which was agreed to and the report of the committee as amended, was then adopted.

The President announced as the Committee on Business for the next year: Drs. Everts, Miller, Curwen, Strong and Gale.



As the committee under Dr. Gundry's resolution, Drs. Gundry, Fisher and Fauntleroy.

Dr. Callender suggested in a few remarks that expression be given by the members to their sentiments on the character and worth of the late Dr. Isaac Ray, in addition to the formal return already taken.

On motion of Dr. Gundry, a committee, of which Dr. Sawyer should be chairman, was appointed to prepare resolutions expressive of the feelings and sentiments of this Association in reference to Dr. Ray.

The President named as the committee: Drs. Sawyer, Gundry and Workman.

On motion of Dr. Gale, it was

*Resolved*, That the eloquent and appropriate remarks made by Dr. Callender be embodied in the preamble to the resolutions relative to Dr. Ray.

Dr. Macdonald, from the Committee on Resolutions, presented the report of the Committee, which, on motion, was unanimously adopted.

The Association of Medical Superintendents of American Institutions for the Insane, having held its thirty-fifth annual meeting in the city of Toronto, Ontario, and having met with a renewal and, if that were possible, an increase of the friendliness and courtesy which marked its former visit, ten years since, desires, at the close of its sessions, to place upon record its deep appreciation of the attention and consideration with which its members have been welcomed and cared for. It is, therefore,

*Resolved*, That the thanks of the Association are eminently due to Mr. John W. Langmuir, Inspector of Asylums, Prisons and Public Charities, for the personal care which he has exercised in forwarding the objects of the meeting, and in affording the members of the Association the opportunity of observing and profiting by the observation of the many improvements which have been made under his stewardship in the charitable and correctional institutions of this province.

*Resolved*, That the members present to their associate, Dr. Daniel Clark, their acknowledgements for his courteous reception of them at the institution under his charge, and their congratulations upon the manifest improvements which have, in the past ten years, resulted from his administration.

*Resolved*, That the thanks of the Association are due to the Inspector and Superintendents of asylums of Ontario, for the excursion on board the "Chicora," and for the banquet given in its honor, and particularly for the opportunity which the latter gave for hearing, from the lips of men eminent in the councils of the province, utterances so sound and liberal upon the subject of the State's duty towards its insane wards, and especially towards those having the immediate care of them, as to afford to the latter no slight comfort and encouragement.

*Resolved*, That not the least, among the pleasures attendant upon this meeting, has been that of renewing personal intercourse with one of the oldest members of the Association, and one than whom none is more highly honored and esteemed, both within it and without—Dr. Joseph Workman—and that it is the earnest hope of his colleagues that he may long be spared to aid them with his counsels, and the public with his recognized skill and wisdom.

*Resolved*, That the Association has inspected, with great interest, Osgood Hall and the building of the Toronto University, and has learned

with equal interest, through the courtesy of the President of the latter, Professor Wilson, of the liberal and enlightened provisions, whereby a higher education is placed within the reach of the young men of the province, practically gratuitously.

*Resolved.* That the interesting and instructive visits, which the members of the Association have been privileged to make to the several public institutions, have been greatly enhanced by the kindness and painstaking of the several presiding officers and their aids; and that grateful acknowledgments are made to Dr. Charles O'Reilly, Medical Superintendent of the Toronto General Hospital; to Mr. J. Massee, Warden of the Central Prison; and to Mrs. O'Reilly, Superintendent, and Mrs. Laird, Assistant Superintendent of the Mercer Reformatory.

*Resolved.* That the social entertainments arranged for its members and the ladies accompanying them have been so many and varied, and especially so enjoyable, that the Association cannot hope to acknowledge them adequately or in detail; but that it presents its grateful thanks to the Hon. John Beverly Robinson and his lady, for their distinguished kindness. And also to the New England Society and the gentlemen of the medical profession of this city.

*Resolved.* That the Association is much indebted to Mr. M. H. Irish, proprietor of the Rossin House, for the facilities which he has given to it, and for the attention which he has shown to the comfort of its individual members.

A. E. MACDONALD,	} Committee.
R. H. GALE,	
C. H. HUGHES,	

On motion the Association adjourned to meet this evening after their return from the reception given by the medical profession.

The Association spent the afternoon in an excursion to Lorne Park by steamboat, under the auspices of the New England Society, and during the evening enjoyed a reception given at the Normal School building by the medical profession of Toronto.

The Association was called to order at 11 p. m., by Dr. Callender.

Dr. Sawyer from the committee to prepare resolution in regard to the late Dr. Isaac Ray, presented the following, which after remarks by several members were unanimously adopted.

[The resolutions not having been received are reluctantly omitted.—Ed.]

On motion of Dr. Everts, the time fixed for the next meeting was changed from May 23 to May 30, 1882.

On motion, the Association adjourned, to meet in Cincinnati, Ohio, on May 30, 1882.

JOHN CURWEN,  
Secretary.

## Books, Monographs, Etc., Received.

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Ueber das Verschwinden und die Localisation des Kniephanomens. (Nach einem in der Berliner medicinischen Gesellschaft gehaltenen Vortrage.), von Prof. C. Westphal.

Die Dr. Erlenmeyer'schen Anstalten fuer Gemuths-und Nervenkrankte zu Bendorf bei Coblenz. Bericht ueber Einrichtung, Organisation und Leistungen derselben in dem Decennium 1, January 1871 bis 31, December 1880. Mit 3 chromolithographien und 2 planen. Leipzig, 1881.

Sull' Azione Della Josciamina e Sul Suo Valore Terapeutico, Nelle Mallattie Mentali, dei Dottori Giuseppe Seppilli e Gaetano Riva. Reggio Nell' Emilia, 1881. (Dalla Clinica psichiatrica diretta dal Prof. Tamburini).

Osservazioni sul Craino e Cervello di un Idrocefalo, di 19 Anni, del Prof. A. Tamburini, Direttore del Frenocomio di Reggio e della clinica psichiatrica della R. Universita di Modena (Con tre Travole). Reggio Nell' Emilia, 1881.

Sulla Legislazione per Gli Alienati ed i Manicomj, del Prof. A. Tamburini, direttore del Frenocomio di Reggio Emilia e della clinica psichiatrica della r. Universita di Mondena. Comunicazione letta al terzo congresso Freniatrico Italiano, in Reggio-Emilia, Settembre, 1881. Milano, 1881.

Un Caso di Microcefalia. Presentazione del Prof. Augusto Tamburini, al congresso Freniatrico di Reggio-Emilia. Milano, 1881.

A lecture on the Localization of Diseases in the Spinal Cord, delivered before the Anatomical and Surgical Society of Brooklyn. By Edward C. Seguin, M. D., clinical professor of diseases of the mind and nervous system, College of Physicians and Surgeons, New York. Reprinted from the annals of the Anatomical and Surgical Society, Brooklyn. Vol. II, No. 12, 1880.

The Cultivation of Specialties in Medicine. An address by E. C. Seguin, M. D., clincial professor of diseases of the mind and nervous system in the College of Physicians and Surgeons, N. Y.; corresponding member of the St. Petersburg Psychological Society. [Reprinted from the *Archives of Medicine*, December, 1880.]

On the Early Diagnosis of some Organic Diseases of the Nervous System. By E. C. Seguin, M. D., clinical professor of diseases of the mind and nervous system in the College of Physicians and Surgeons, New York. [Reprinted from the *Medical Record*, February 26, 1881.]

I. A Clinical Contribution to the study of Post-Paralytic Chorea. II. A Contribution to the study of Localized Cerebral Lesions. Same author. [Reprinted from the transactions of the Ameriern Neurological Association, Vol. II, 1877.]

A Treatise on Diseases of the Nervous System. By Wm. A. Hammond, M. D. Seventh edition, re-written, enlarged and improved. Published by D. Appleton & Co., 1, 3 and 5 Bond street, New York, 1881.

Index catalogue of the Library of the Surgeon General's office, Vol. II, 1881.

Insanity: Its Treatment and Prevention. The Presidential address of the Border Counties Branch of the British Medical Association. By J. A. Campbell, M. D., F. R. S. Edinburgh, medical superintendent of the Cumberland and Westmoreland Asylum. [Read at Carlisle, June 25th, 1880, and re-printed from *Lancet* of August 28th and September 4th, 1880].

The Structure of the Vessels of the Nervous Centers in Health and their Changes in Disease. Part VI. On Some Changes in the Ganglion Cells of the Gray Cortex of the Brain in Acute Delirium, and their Relation to those in Acute Insanity and in Dementia. Part I. By Theodore Deecke, Special Pathologist, New York State Lunatic Asylum. [From the *American Journal of Insanity*, for January, 1881].

Uterine Functions and Disease. One hundred and Ten Cases of Emmet's Operation. By P. V. Schench, M. D., Surgeon to St. Louis Female Hospital. [Reprinted from the *St. Louis Courier of Medicine*].

Trance and Trance-like States in the Lower Animals. By George M. Beard, A. M., M. D., member of the American Neurological Association; of the American Academy of Medicine; of the New York Academy of Medicine, etc. [Reprinted from the *Journal of Comparative Medicine and Surgery*, April, 1881].

Stricture of Esophagus Gastrostomy. By T. F. Prewett, M. D., Prof. Clinical Surgery, Missouri Medical College. Read before Medico-Chirurgical Society, January, 1881. [Reprint from the *St. Louis Courier of Medicine*, March, 1881].

Higher Education of Medical Men and its Influence on the Profession and the Public. Address delivered before the American Academy of Medicine, at its fifth annual meeting, held at Providence, R. I., September 28, 1880. By F. D. Lente, A. M., President of the Academy.

Simple Methods to Staunch Accidental Hemorrhage. By Edward Borek, M. D., member of the Medical and Chirurgical Faculty of Maryland and Baltimore Medical Association; St. Louis Medical Society. [Reprint from *Indiana Medical Reporter*, Evansville, Ind., April, 1881.]

The Condition of the Brain in Insanity. By Theodore Deecke. [From the *American Journal of Insanity* for April, 1881].

#### AND THE FOLLOWING HOSPITAL REPORTS AND ANNOUNCEMENTS.

Richmond District Lunatic Asylum, Dublin. Report of the resident medical superintendent for the year 1880. Ordered by the Board of Governors to be printed. Powerscourt, Chairman, 15th February, 1881.

The Fifty-seventh Annual Report of the officers of the Retreat for the Insane, at Hartford, Conn., April, 1881.

Report of the Committee of the Legislature of 1881, concerning the management of the Main Insane Hospital, with the argument of Orville D. Baker, Esq., before the committee. Published by order of the trustees.

Biennial report of the superintendent of the Oregon Hospital for Insane to the Legislative Assembly. Eleventh regular session, 1881. Portland, Oregon, 1881.

Reports of the Trustees and Superintendent of the Butler Hospital for the Insane, presented to the Corporation at their annual meeting, January 26, 1881. Providence, 1881.

Annual report of the operations of the Government Hospital for the Insane for the fiscal year ending June 30, 1880, being the twenty-fifth annual report of the Board of Visitors. Washington, 1880.

The American Medical College Association, fifth annual meeting, held at Richmond, Virginia, May 2d and 4th, 1881.

Sixty-fourth Annual Report on the state of the Asylum for the Relief of Persons Deprived of the Use of Their Reason. Published by direction of the Contributors, third month, 1881. Philadelphia, 1881.

Announcement of the Medical Department of the University of Pennsylvania for the one hundred and sixteenth annual session, 1881-82, and list of graduates at the commencement, held March 15th, 1881. Philadelphia, 1881.

Fortieth annual announcement of the St. Louis Medical College, Seventh and Myrtle streets, St. Louis. Winter session, 1881-82, and catalogue for 1880-81.

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THE  
ALIENIST & NEUROLOGIST.

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Vol. II.

OCTOBER, 1881.

No. 4.

ORIGINAL CONTRIBUTIONS AND PREFERRED TRANSLATIONS.

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Art. I.—On Ambitious Delirium in the  
Local Organic Affections of the Brain  
and Spinal Cord.\*

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*By M. BAILLARGER.*

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Translated by E. M. NELSON, M. D., St. Louis.

(CONCLUDED.)

THE six observations which I have just cited could be viewed in two different ways. It would be possible to consider them as cases of general paralysis still in the first period. It would be recalled in the support of this opinion, that in other similar cases the autopsy has disclosed the ordinary lesions of chronic periencephalites. It would seem then that these lesions might have been produced had the patient lived longer. When death supervenes in the first months which followed the invasion of the delirium of grandeur, this opinion is in reality very tenable; but it becomes more difficult to defend if the ambitious delirium has persisted six months, a year or more. However, even in these cases one might recall the anomalies so frequent in the course of general

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\* Annales Médico Psychologiques.

paralysis, and the facts in which the delirium of grandeur has lasted several years before the appearance of symptoms of paralysis. Bayle, among others, has cited a very remarkable case of this kind. I ought to say, however, that the authors of the observations which precede, have not raised this question. The patients have succumbed to the sequelæ of ancient cerebral hemorrhage, to local encephalitis, to tumors of a syphilitic nature, to diseases of the spine. There was determined at the autopsy, no trace of chronic periencephalitis, and in spite of the delirium of grandeur, we are forced to admit what the autopsy demonstrates, without making a supposition which might appear purely hypothetical.

M. Calmeil, in the quite extended reflexions which follow his observation, makes no allusion to the existence in this case of a chronic periencephalitis. The patient, according to him, had had three attacks of local encephalitis. The first, he says, had induced "a sort of momentary failure of the faculties of intellect; the second had been followed by a veritable insanity, with a *preponderance of ambitious ideas*; the third had given place to alternations of somnolence and exaltation." Note the fact, that this mental alienation *with preponderance of ambitious ideas*, of which M. Calmeil speaks, *had lasted six months*.

M. Renault du Motey has given to the observation which I have analyzed above, the following title, which suffices to indicate the manner in which he looks at it: "General paralysis simulated by an incomplete dementia with ambitious delirium and multiple paralysis. Absence of the characteristic lesions of general paralysis. Softening of the spinal cord."

As to M. Foville, he had, like M. Renault du Motey, believed in the existence of a general paralysis, but recognized, after the autopsy, that he had committed an error. He remarked further "that the name, general pseudo-paralysis, would apply much better to these than to those for which M. Fournier has proposed it.



In whatever way we view the facts which I have just cited, it remains not the less demonstrated that, in certain cases, the generalized ambitious delirium may persist six months, a year or even more without the lesions of chronic periencephalitis being apparent after death. M. Foville has spoken clearly on this point, as in the case observed by him, he says: "Whether or not the case of M. L. has analogues previously published, there exists none the less this fact which is established for me without possible doubt; during a period of several months the mental state of this patient has been a dementia, with predominance of a mobile, absurd, incoherent delirium of grandeur, a mental state which is exactly that of a great number of insane paralytics; and, nevertheless at the autopsy the absence of the lesions pertaining to this affection has been determined. What is the conclusion from this, if not that the existence of these intellectual phenomena is not necessarily connected with that of those lesions?"\*

In all the cases cited, the generalized ambitious delirium being attributable to chronic periencephalitis, it remains necessary to seek an explanation.

The local lesions of the brain, or the diseases of the spine, which had preceded the invasion of the delirium, could only be the indirect cause of it; they provoked an irritation, and probably fluctuatory movements, which have had for their consequence a perturbation of the nervous elements, of which the delirium was an expression. It is important, furthermore, to note, in support of this opinion, that the local lesions of the brain provoke quite often a delirium of an entirely different nature. This is a point upon which M. Calmeil has insisted.

"The coincidence of a very active delirium, of a veritable state of mental alienation, with the development of a chronic local encephalitis is, he says, far more frequent

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\* M. Foville (Observation 3) has here assigned a duration of only a few months to the absurd, mobile, contradictory delirium which this patient presented, which is perfectly correct; but it is important to note that this delirium, in this case, as in many others, was only the last degree of the evolution of the ideas of grandeur. The patient, in fact, only succumbed seven or eight months after the invasion of the delirium.

than is generally thought. By a peculiarity which contrasts with that which is so often observed in the manifestations of ambitious delirium in individuals affected with chronic periencephalitis, superficial and diffuse, almost all the subjects affected with interstitial encephalitis are a prey to ideas of discouragement and sadness. In the manner of hypochondriacs, they are continually thrown back upon themselves, analyzing all their most intimate sensations, and often attributing to exterior influences all the tortures which they endure."

Further on M. Calmeil adds: "This form of delirium is so significant to our eyes, that we shall never hesitate, when it is found associated in a person who has passed sixty years of age, with embarrassment of speech and some symptoms, already old, of local paralysis, to diagnose the existence of a center of chronic interstitial encephalitis. We cannot doubt then, after that which we have just read, that a certain number of cases of insanity with predominance of unfavorable conceptions and ideas are the consequence of an habitual and partial inflammatory state of the brain."<sup>1</sup>

Local encephalites, then, may excite deliriums of a very different nature, but they are evidently only the indirect cause.

Delirium, whatever be its form, constitutes in all these cases a veritable complication.

Trousseau taught that all epileptiform convulsions, though depending upon causes widely diverse, are to every appearance the expression of the same intimate modality; and he added that this same intimate modality is, and probably will always remain, unknown. We can only repeat for delirium that which Trousseau said for convulsive epileptiform attacks. Like these attacks, it has, in fact, causes widely different; but we are obliged to avow that we know nothing as to its direct cause.

There is, however, for the ambitious delirium an unquestionable fact, and one of very great importance: it

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<sup>1</sup> Calmeil, *Maladies Inflammatoires du Cerveau*, Paris, 1859, t. II., p. 240.

is the close relation which associates it with cerebral congestion. This fact explains how the ideas of grandeur are so often accompanied by somatic symptoms. Every day, in fact, we see suddenly break out ambitious delirium, immediately after a cerebral congestion; this sudden invasion has even taken place sometimes without general paralysis. So it is that it is observed in a transient form after an attack of epilepsy, under the influence of alcoholic intoxication, or even in old men threatened with apoplexy or softening. It is understood, then, that M. Foville, not having determined at the autopsy of the patient observed by him, any lesions of chronic periencephalitis, thought that he could explain the delirium by a state of congestion. He attributed it, in fact, "to simple disturbance of circulation, of congestive nature, a mobile and transient state, if you wish, but which," he said, "could beget the highest and most ambitious thoughts." Farther on, the same author adds that one is so led to admit that, in certain cases at least, the incoherent, mobile, diffuse ideas of grandeur may belong to a simple state of congestion of the encephalon, without the lesions peculiar to paralytic insanity.

The facts of which he treats are, it is true, considered here as exceptions, but they have none the less, a great interest with reference to the pathogeny of general paralysis.

They may, in fact, serve to elucidate the question of what are called remissions, which constitute one of the most curious and, in my opinion, one of the most important chapters of general paralysis.

We know that very often the attacks of ambitious mania, which break out at the commencement of the general paralysis, recover exactly as the attacks of simple mania. After a diminishing period, the patient returns, little by little, to reason; but, in the very great majority of cases, we recognize that the intellectual standard has slightly lowered, and that the cure only relates to the attack of maniacal delirium. The principal disease, that

is to say, the paralytic dementia, after six months or a year, will resume its course.

How difficult it is to comprehend this dissociation of delirium and dementia, if the two classes of symptoms are the expression of the same class of lesions! How much simpler, on the other hand, to explain the insanity separately, if it is here only a complication; if the lesions found at the autopsy are only the indirect cause, and if, once produced, it has an independent existence!

We know that Bayle attributed the general paralysis to a chronic meningitis. He explained the ambitious delirium by the irritation which the inflammation of the arachnoid communicated to the cortical layer. If such were the cause of the delirium of grandeur, this delirium, we may understand, ought to continue as long as the meningitis itself, and persist till the moment when it is replaced by a complete state of dementia, itself excited by grave lesions of the cortical layer. However, as I have just said, it is often otherwise. The delirium ceases, but the patient retains signs of dementia and paralysis. This fact has not escaped Esquirol, and he has made use of it to combat the explanation of Bayle. He cited, in this respect, the following observation:

"A police officer was taken suddenly with an attack of monomania. He believed himself a great personage, and immensely rich; he gave way to a great number of extravagancies; at the same time, he experienced a difficulty of articulation. After five weeks, the paralysis persisted, and soon invaded the muscles of the extremities; the patient experienced frequent cerebral congestions, which excited epileptiform convulsions; but there was no more delirium; this officer judges perfectly the state in which he has been and still is, and for which he demands relief of medicine."

There is nothing more precise than this fact reported by Esquirol. This person, who, during five weeks, believed himself a great personage, and immensely rich; who, during five weeks, gave himself up to a multitude

of extravagancies, this patient has returned to his reason, *"he judges perfectly the state in which he has been and still is, and for which he demands relief of medicine."* However, in spite of this change so remarkable and so complete, not only the symptoms of paralysis persist, but are aggravated. Though Esquirol does not mention it, it is probable, if not certain, that, with the persistence and even aggravation of paralytic symptoms, there coexists an intellectual weakening, more or less marked.

What is the conclusion from this fact and from all those which resemble it? The response to this question seems to me to assert itself.

There are two classes of symptoms belonging to different direct causes.

On the one hand, paralytic dementia, which we often see pass through all its phases without being accompanied by delirium, and which leaves, after death, specific, well-defined lesions.

On the other hand, delirium, whose direct cause and intimate modality are unknown, but which, once produced, has a separate existence, and an evolution peculiar to itself.

It seems to me this is the point to which clinical observation alone would lead us; but the facts which I have collected here furnish a further argument, and this argument seems to me to have great value.

If it is demonstrated, in fact, by necroscopic researches, that the generalized delirium of grandeur may persist for a long time without the possibility of establishing, on autopsy, the ordinary alterations of chronic periencephalitis; if we recognize that it is not necessarily dependent upon these alterations, and that it can, in certain cases at least, as M. Foville has said, be related to mobile and transient lesions, why not explain in the same manner the attacks of ambitious delirium which break out at the commencement of general paralysis, and which are so often seen to recover after a few months?

The observations brought together here will serve then, as I have already said above, to elucidate the question of

remissions, and, in this respect, they have appeared to me to have some interest.

I have limited myself here to the establishment of this fact, proposing to examine soon more completely the question of the forms of general paralysis associated with insanity, in their relations with the anatomical lesions of this malady.

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## **Art. II.—On the Private Care of the Insane.\***

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FOR many years past the study of the methods in which best to promote the cure and improve the care of the insane has occupied the attention of leading members of the medical profession, of philanthropists and of the public. In former times the insane were wholly under private care; and it might be said of the great majority of cases that they were entirely without proper care, but were subjected to every sort of neglect and abuse. In one civilized country after another the State gradually assumed the charge of these much abused and neglected citizens, until now the great majority of the insane are under the immediate care and protection of the State, and are in part or wholly supported at the public expense. But at no time and in no country has the State undertaken to provide for all the insane. The burden has been so great and the steadily increasing numbers that have been pressed upon the care of the commonwealth have been such that many of those even who have been most in need have, in many countries,

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\* Read before the New York County Medical Society, June 27th, 1881.

been left without adequate provision. Others have been in private care which has been efficient and satisfactory in different degrees.

It is the object of this paper to treat of the various ways in which provision has been made for the private care of the insane, with especial reference to the necessity and advisability of such provision.

As a preliminary step, a brief statement of the numbers, provision for and distribution of the insane will be required.

Unfortunately a satisfactory enumeration of the insane has never been made in the United States. The returns of the insane enumerated by the census of 1880 have not yet been published. In accordance with the census of 1870, the ratio of the insane to the whole population was as one to one thousand and thirty, idiots being included with the insane. By the census of 1880, the population of the United States was found to be 50,152,866. Assuming the ratio of 1870 to be correct, the number of insane in 1880 would have been 48,668. But there is reason to believe that the ratio of the insane to the whole population is very much larger. In the state of Massachusetts, where a careful census of the insane has been taken, there was found to be one insane person to every four hundred and fifty or less of the inhabitants.

The commissioners in lunacy in England published very valuable and exhaustive reports on the subject of lunacy, giving, among other facts of great importance and interest, the number, ratio to the whole population, rate of increase and distribution of the insane in England and Wales. Their annual report for 1880, shows that of a population of 25,480,161 no less than 71,191 were enumerated as insane; or in other words, that one person in every three hundred and fifty eight (1 : 358) was recognized as insane. If the 1,309 idiots who were enumerated as lunatics were deducted the ratio would yet be as high as one to three hundred and sixty-two (1 : 362). This ratio is nearly three times as great as that given by

the United States census. But yet the English enumeration in years past either has not included all the insane, or else insanity is steadily on the increase, as may be learned from the table giving the ratio of the insane to the whole population for each year, from 1860 to 1880, inclusive :

*TABLE SHOWING THE RATIO OF LUNATICS TO EACH 10,000 OF THE POPULATION OF ENGLAND AND WALES FROM 1860 TO 1880, INCLUSIVE.*

1860 - 19.12	1867 - 22.64	1874 - 26.23
1861 - 19.71	1868 - 23.23	1875 - 26.64
1862 - 20.19	1869 - 23.93	1876 - 26.78
1863 - 20.90	1870 - 24.31	1877 - 27.11
1864 - 21.45	1871 - 24.91	1878 - 27.55
1865 - 21.73	1872 - 25.42	1879 - 27.77
1866 - 22.26	1873 - 25.82	1880 - 27.94

An inspection of this table shows that while in 1860 the ratio of the insane to the whole population was as 19.12 to 10,000, in 1880 the ratio was as 27.94 to 10,000; an increase in the enumeration amounting to nearly nine insane persons to every ten thousand inhabitants. It may also be observed that the ratio steadily increased from year to year without a single exception, although the rate of increase quite steadily diminished, giving reason to hope that the limit will soon be reached. But whether the one cause or the other be assumed as the reason for the increase in the number enumerated, the fact of the increase still remains and gives reason to believe that the census ratio of the insane and also the number who are placed under care away from their own homes will steadily increase in this country for many years to come. The fact that whatever provision for the accommodation of the insane has been heretofore made in the United States has failed to meet the demand, serves to strengthen this belief. It is a chronic complaint on the part of superintendents of asylums for the insane that their accommodations is overtaxed; and new accommodations are hardly completed before the same complaint needs to be reiterated. It almost seems to the ordinary observer



as though the provision of asylums serves to increase the numbers of the insane. But yet in this country only one in twelve hundred and seventy (1 : 1270) of the inhabitants is cared for in public and private institutions for the insane, while in England the number thus cared for is one to three hundred and ninety-six (1 : 396).

A great majority of all these insane persons are in indigent circumstances, or if not indigent when they become insane they become non-producers, and sooner or later their families become unable to sustain the burden of their support. If they are properly cared for at all, it must be at public expense. As has already been observed, the State has never yet made adequate provision anywhere for all her insane, and this end is not likely to be attained in the near future. Hence private provision for the insane will be a necessity in the future as it has been in the past.

Not only is private provision for some of the insane in a certain sense a necessity, but it is undoubtedly better that such of the insane as can afford the expense should be placed in private care. Well-equipped and well-managed asylums for the insane are among the most important of the outgrowths of modern civilization and benevolence, and cannot be too highly commended. But, like most other good things, they have their defects and short-comings. The same necessity which has called them into existence has led to their overgrowth in size, and overcrowding in numbers. Thirty years ago the Association of Medical Superintendents of American Asylums for the Insane had under discussion the limit of the capacity of asylums, which ought not to be exceeded; and unanimously placed this limit at the capacity to accommodate two hundred and fifty patients. But the urgent needs of the insane were such that asylums were kept constantly overcrowded, while the necessities of State economy demanded that these patients should be maintained at as small a tax upon the public as possible. An increase in the capacity of asylums is more economical than an

increase in the number of separate organizations. In consideration of these facts the same Association of Superintendents only a few years afterwards decided that the capacity of asylums might reach, but should not exceed, an accommodation for six hundred patients. Their views of what was best had yielded to their views of what was necessary.

There can be no doubt that their first decision, in so far as the best interests of the patients in any particular asylum are concerned, was entirely correct; and it will be well in this connection to consider some of the reasons which lead to this conclusion, as well as some of the disadvantages under which public asylums labor in the other respects.

In large public asylums too many insane persons are closely associated together. They re-act upon each other as a cause of mutual irritation or depression. While it may be conceded that it is oftentimes of advantage to an insane person to know and see that he is not alone in his trouble, that others are under similar care and treatment, and that some of them recover, it is none the less true that the general influence of a large number of insane associates is prejudicial. An atmosphere of insanity is no more favorable to improvement than an atmosphere of consumption or of fever. Again, in many respects, the patients in a large hospital are treated and managed in the aggregate. Each one is a component of a crowd under the discipline and restrictions of an institution. This many of them feel, and the feeling is repulsive. If they become accustomed to this feeling, it is because they have lost somewhat of their sense of individuality, of self-reliance, of hopefulness; because they have become hospitalized, insignificant parts of a large machine.

Under the discipline and routine which are unavoidable in a large hospital, there are, in many ways, restrictions in personal liberty which would otherwise be unnecessary. It is oftentimes found that when insane patients, for years inmates of asylums, have been removed under favorable

circumstances, they have enjoyed a greatly enlarged liberty, with benefit to themselves and without prejudice to others.

As a rule, the insane are unsocial in their feelings and habits. Not only should they not be associated together, but their intellectual and moral faculties need to be stimulated and controlled by judicious association with the sane. In large asylums the patients can hardly be said to enjoy the society of the sane at all. The visits of the overtaxed physicians are for the most part professional in character, the nurses are occupied with their official duties, and at best can be social companions to only a favored few of the many patients under their care, while the general visitors, who sometimes pass through the wards, rarely supply the deficiency in any respect whatever. Patients, whose condition has been a long time stationary, while they remained inmates of a lunatic asylum, sometimes begin to improve as soon as they are removed from the asylum to family associations outside. The larger the institution the less is the probability that insane patients will enjoy that judicious social intercourse with the sane which not only promotes their happiness, but may promote their cure.

On the other hand, the smaller the assemblage of insane patients the greater the likelihood that they will have the advantage of beneficial associations; and also that they will have an enlarged degree of personal freedom, a greater amount of personal care, and that they will enjoy more fully those little amenities of family life, which give more real and lasting pleasure than the elaborate amusements and relaxations that are often provided for the inmates of large asylums.

One other disadvantage pertaining to large asylums for the insane is worthy of attention in this connection. Personal responsibility is one of the strongest incentives to diligence and efficiency. The Medical Superintendent of an asylum pre-eminently holds the post of responsibility in whatever regards the treatment and management of his patients. Assistant physicians may be conscientious

and capable, but they are subordinates; they are not in the highest degree responsible, and they cannot exert the influence they might exert, if they held the highest position of responsibility and power. On account of the large number of patients under his care, and on account of his various subsidiary duties, the medical superintendent of a large asylum cannot undertake the thorough personal study and individualized treatment of all, or even of the more important of his cases.

The following authorities are quoted in corroboration of the views just expressed.

The Secretary of the State Board of Health, Lunacy and Charity, of Massachusetts, says, as follows, in his last Annual Report :

"Viewed simply with reference to the amount of money required for each patient, the large hospitals may be conducted with less expense than the smaller ones would be; but they cannot be considered desirable as offering the most favorable conditions for the successful treatment or care of insanity."

Dr. Bucknill, in his recent work on "The Care of Insane," expresses the following views :

"A congregation even of pauper lunatics is a great, though doubtless an unavoidable evil, while a system which compasses the herding together of lunatics of large fortune, or even of competent means, for any purpose but the important one of public safety, is but a mouldy method of routine and prejudice. For opulent patients, certainly, the smaller the asylum the less the objection to it. . . . The law, therefore, offers a strong personal inducement to the Lord Chancellor's visitors to accumulate their wards in asylums, and it is in the teeth of this unintentional bribe to opposite action that the Lord Chancellor's visitors so far encourage domestic treatment that one-third of their lunatics may be found in mansions, farm-houses and cottages, in such enjoyment of life that the luxuries of the most showy asylum would be misery to the most of them."

Says the Right Honorable Chairman of the Select Committee (Mr. Cave):

"There is an almost universal complaint made by lunatics of bad treatment in asylums. I suppose you hardly ever find any who do not fancy they did suffer unjustly while confined in an asylum."

Mr. Phillips, in reply, remarks :

"Almost every insane man thinks he is sane, and everything connected with his detention as an insane man he looks upon as wrong."

Dr. Bucknill writes as follows regarding the remarks of Mr. Cave and Mr. Phillips, viz :

" Almost every unprejudiced person conversant with asylum life will endorse Mr. Cave's assertion. Everyone acquainted with domestic treatment will feel assured that Mr. Phillips' explanation only applies to asylum lunacy, and that it is, to a great extent, the misery of imprisonment which begets the strong sense of wrong. The aversion which most lunatics have to an asylum is, no doubt, not altogether a rational sentiment. But, if we reflect that, with what mind he has left, a lunatic feels the stigma of detention in an asylum; that, moreover, the restraint of limited quarters and narrow bounds is irksome to him; that he resents the inevitable association of distasteful companions, perhaps not more insane than himself, but different, and, therefore, offensive; and, if he be a man of culture and position, that subjection to the men who, for low wages, accept the duties of the attendants, is often felt by him to be unspeakably degrading; and that to all this may be added the conviction that he is deserted by those who owe him positive care and tenderness. We shall scarcely need to follow Mr. Phillips in attributing all his complaints and his sense of wrong to insane conceptions."

Dr. Maudsley writes as follows :

" I feel most earnestly that I should infinitely prefer a garret or a cellar for lodgings, with bread and water only for food, than to be clothed in purple and fine linen and fare sumptuously every day as a prisoner. I can well believe that all the comforts which the insane person has in his captivity are but a miserable compensation for his entire loss of liberty; that they are petty things which weigh not at all against the mighty suffering of a life-long imprisonment. I would put to those who lay stress on the comforts of asylums, whether they sufficiently consider the discomforts of them apart from the imprisonment, which they are by the nature of the case. Is it not a common thing to hear from an insane person bitter complaints of the association he has in the asylum, and of the scenes of which he is the unwilling witness—scenes which cannot fail to occur, notwithstanding the best classification, where all sorts and conditions of madness are congregated together? What, again, can be conceived more afflicting to a man who has any intelligence and sensibility left than the vulgar tyranny of an ignorant attendant—a tyranny which the best management cannot altogether prevent in a large asylum. And I might go on to enumerate many more of the unpreventable miseries of life in an asylum, which, while superintendent of one, forced themselves painfully upon my attention, and often made me sick at heart."

In regard to individualized treatment, Dr. Maudsley writes as follows :

" The discipline of a large asylum certainly counts for a good deal in some cases, but it has this great disadvantage, that the patient's individuality is but little thought of; he becomes one of a crowd, the majority of whom are not expected to recover; and his moral treatment is little more than the routine of the establishment and the despotism of the attendant.

In pursuing a proper individual treatment of insanity, it is necessary to penetrate the individual character in order to influence it beneficially by moral means, and to investigate carefully the concurrence of conditions which have issued in disease in order to obviate them. But, in a large asylum, containing two or three hundred patients or more, where there are two medical men who go around the establishment once or twice a day inspecting the patients generally as they inspect the baths and the beds, and exchanging a few words with one or another of them, they are not so many *individuals*, each having a particular character and a particular bodily disposition, with which the medical officer is intimately acquainted, but so many residents who might almost be called, as the residents in a large hotel are, by numbers instead of names."

It may be considered fairly established then as both necessary and best, that some of the insane should be under private care and treatment, instead of being placed in public institutions. It remains to be considered what classes of patients are best suited for public, and what for private care; and also the various sorts of private provision that are available and the adaptability of each.

Private care of the insane may be conveniently considered under the following classification, to-wit: Large private institutions accommodating from fifty to two hundred patients or more; small private institutions accommodating from ten to fifty patients; private homes for from one or two to seven or eight, or not to exceed ten patients; traveling under suitable care and supervision; and care at the patient's own home.

Inasmuch as public institutions and the public are almost universally overtaxed in furnishing accommodations and support for the indigent insane and for those of limited means, it may fairly be urged that patients whose friends are able to provide for their private care, should not be placed in overburdened public institutions. There seems to be no more reason why the state should furnish accommodation for those of the insane who are wealthy or in competent circumstances, than for any other class of wealthy invalids.

The large private institutions do not differ essentially from public institutions in organization, management or adaptability, and hence do not need an extended notice. They differ chiefly in these respects: They only receive

patients for whom there is accommodation and therefore are never overcrowded; their accommodation is limited to smaller numbers, so that excessive numbers of the insane are not congregated together; the dietary, size of apartments, and furnishing are on a more liberal scale; and the ratio of attendants and physicians is greater, so that the patients are more associated with the sane, and an individualized treatment can be carried more thoroughly into effect. Like public asylums, they are adapted to the care of all types of insanity. Many of them are endowed, and thus brought within the resources of patients of moderate means.

The smaller private institutions offer still further advantages in their greatly diminished numbers, the quietude and home-like character of the management and associations, and the more individualized treatment of the patients; but as they hold an intermediate position between the larger private institutions and the smaller private homes, an extended notice of them will not be required.

By the private care of the insane in *Homes* is meant, in this paper, their management and treatment in an ordinary private house, chosen, it is true, with especial reference to healthfulness of location, quietude, and adaptability, but yet in all essential respects like other comfortable homes.

The leading ideas which underlie this sort of care are that the patient shall enjoy the favorable influences of a well ordered family life; that his care and treatment shall be thoroughly individualized, his personal requirements and peculiarities being taken into consideration at every step; and the substitution of moral influences and of constant personal care for mere physical restraints.

The family life affords a great variety of associations, incidents and occupations that are grateful and beneficial to the patient. He meets the different members of the family at meals and at various times and places during the day and evening. He is at least present and hears

their conversation and observes their occupations and amusements. From this the step towards taking an interest and participating in these occupations and amusements is an easy one. This step once gained and the advance toward recovery is already very great; or, in case mental restoration should be out of the question, towards securing the happiness and physical well-being of the patient. Family resources for varied occupation and amusement are much greater and more natural than can be provided in an institution; and, furthermore, they are by no means confined to the family and home, for the great majority of the patients who are adapted to this sort of care are able, under proper supervision and companionship, to enjoy the freedom of the surroundings, driving out or walking about the neighborhood, visiting places and objects of interest, and attending church, lectures or places of amusement, very much as other members of the family and other families do.

Being associated with, and under the care and supervision of, the sane members of the family, as the patient always is, the opportunities for observing his varying moods and symptoms are exceptionally good. This is of no little importance inasmuch as the symptoms of disease in the insane are oftentimes obscure, and as important changes in moods and feelings may suddenly take place, and require immediate and special management. Success, in the treatment of the insane, often depends very largely upon the promptness with which advantage is taken of crises in the disease; or a favorable issue may depend upon the assiduity with which the more constant symptoms are watched and managed. Each insane patient has individual peculiarities, which need to be thoroughly understood and wisely managed, and, as a rule, these circumstances and surroundings are best for the patient which are most favorable to his individualized treatment and management.

The moral influences of the family life, and the immediate personal care and supervision under which the



patient is placed, and the smaller number, render the restraints of locked and bolted doors, and of barred windows, unnecessary. This is a great gain, for the idea of being locked up as a prisoner is exceedingly repulsive to any mind, whether sane or insane. Both while thus confined and for years after recovery, patients often refer reproachfully to this feature of their asylum treatment. The absence of this sort of restraint serves to reconcile the patient to remain where his friends have placed him for a temporary home. He becomes, to a certain extent, if not altogether, willing to remain; and whatever of willingness he may feel in regard to his domicile or treatment promotes both his happiness and the prospect of a cure. And so of other physical restraints. Their replacement by personal care and moral influences is, in every way, of advantage to the patient. At one of the Scottish asylums, where the doors were left unlocked, as an experiment, it was found that patients, who had been watching the door for an opportunity to escape, no longer sought to leave the asylum at all. The degree of freedom that had been given rendered them amenable to the moral control of the attendants, and the regulations of the institution.

In order to gain the full advantages of this kind of private care, a limited number of insane patients only should be kept in the same house. The whole number of persons thus congregated together should not be such as to exceed generous family limits; although a sufficiently large family certainly has its peculiar advantages in the attractions of the quiet bustle which attends the performance of necessary home duties in and about the house, and in its capacity for variety in social intercourse and diversion. The limit would vary in accordance with the mental condition and habits of the patients, but the number should not exceed six or eight, or at the most, ten in any case. With the addition of necessary nurses and servants, the family would then be sufficiently patriarchal in dimensions.

Whenever more than one insane patient is thus kept under private care, there are important and obvious reasons why a physician of abundant experience in the management and treatment of the insane should be the head of the family, and in full and responsible charge of the patients; and it would certainly be better that even a single patient away from his own home should be under the immediate care of a competent and reliable physician. But the cost of placing a single patient with such a physician, in a suitable location and under favorable circumstances and surroundings, is so great that few can afford the expense. There can be no doubt, however, that many indigent patients who are now under asylum care, would be quite inoffensive and would be happier if they could be placed as special boarders with suitable families in their own social sphere. This method of caring for the harmless insane has been in practice in Scotland, on an extensive scale and with satisfactory results, both in regard to the welfare of the patients and economy in the cost of maintainance. In England, many chancery patients are in like manner kept as boarders in private families. The somewhat analogous practice at Gheel in Belgium, is well known and understood. But in Scotland and in Belgium the single patient system has been a growth, in the former case of years and in the latter of centuries. The common people have gradually become accustomed to the idea and indoctrinated in the method of caring for the insane, so that they are both willing and competent to take charge of a suitable insane patient as a member of the family. Whether many suitable families could be found in this country who would be willing to take charge of such patients may be a doubtful question, but it is worthy of careful consideration and a judicious trial.

Insane patients who are under private care away from their own homes, should be under state supervision as fully as are the patients who are confined in public institutions. This is necessary for the protection of the patient against possible abuses or improper detention;

and it is also in the interest of those in charge, as tending to assure the public that the patients are properly placed and treated.

The mental condition, disposition and habits of the great majority of the insane are such that they are proper subjects for private care, but on the other hand, many of them can be better managed and treated in institutions. Those who are habitually or frequently violent, quarrelsome, boisterous, turbulent and unmanagable, or in other words those who would seriously disturb the quietude and harmony of the family, are not well fitted for private care. Such cases are not likely to do well even as single patients. They often yield to the routine discipline of an institution where many others are subject and obedient to the same regulations, when they would be irritated by efforts to control them as private patients. If placed under private care as single patients, they would require to be so secluded, that they would suffer more from *ennui* and from lack of association with others than they would from ordinary asylum associations. Acute cases of insanity, however, with general mental disturbance and excitability are oftentimes well enough adapted to private care, either as single patients or at private homes, where suitable provision is usually made for such cases apart from the rest of the family. When, after a few days or weeks, the acute symptoms have passed away, the patient may be suited to ordinary family care, or convalescence may supervene. In the latter case the method of management pursued is usually a cause of especial gratification both to the friends and to the patient. There is still another class of patients who are likely to do better in an institution; that is those who have an exalted self-feeling, and think that everything should be subjected to their personal views and wishes. This state of self-feeling may be more easily ignored in an institution without irritating the patient than in a private house, where the patient would be an especial object of care and interest.

In the nature of the case such private care of the

insane, as has been set forth in this paper, must not only be private care, but it must be provided by private enterprise. The State in every country, as already shown, has hitherto failed to provide accommodation and support for the constantly increasing numbers of the indigent insane who are in need of care. Even if it were best, the burden of taxation would be too great upon the State if it were to undertake the provision of establishments suited to the needs of wealthy insane persons and for those of competent means. The most the State can be expected to undertake in the direction of public enterprise is the provision of such means and facilities as are required by the great masses of the community; and these means and facilities should be adapted to the simple requirements of the masses. It has been suggested by Dr. John Charles Bucknill that the State do undertake the erection and management of establishments suited to the needs of the wealthy insane, making such charges as will re-imburse the State for the expenditure. But the State might equally well be called upon to erect and manage establishments for the higher branches of learning and for many other purposes which are in the interest of the few. If such a policy were to be undertaken, the burdens thus imposed upon the State would soon become unbearable. And then again the machinery of State politics, in this country especially, is by no means so perfect as to assure the success of such establishments, so as to make them satisfactory either to the public or to those in whose interest they were undertaken. The personal interest and responsibility involved in private enterprise are stimulants which oftentimes go further to ensure good management than mere official responsibility would do.

Certain objections to private establishments for the care of the insane have been made, however, which are worthy of consideration. The following are the chief of these objections: first, that it is not for the interest of the proprietor of a private asylum to cure his patients, and

hence that he may not make an honest effort to promote their cure; and, second, that general practitioners of medicine should not be deprived of the emoluments which might be derived from the treatment of this class of patients.

The reply of Dr. Henry Maudsley to the first objection is so pertinent that nothing more need be said on this point; and especially as he is unbiased by any pecuniary interest in private establishments. He writes as follows:

"Many persons entertain an easily occurring and deeply rooted suspicion that it is not the interest of the proprietor of a private asylum to cure his patients, and that, therefore, he will not adopt the best measures to cure them. But that is evidently a kind of suspicion which might reach very far indeed; it might be suspected that it is not for the interest of any medical man to cure his patient quickly; not the interest of a lawyer to expedite his client's business; not the interest of any one to do with good speed what will make him a greater profit if he make it a long business. The asylum proprietor, like other people, will find his true interest in the long run to be doing best the service which he professes to do.

"A sensible advantage accrues from the strong personal interest which the proprietor of an asylum has in its good management and success; when his livelihood or his profit depends upon the reputation which it has, he is not likely to neglect it. His business is to please his patrons, and if he fails to do that his establishment will suffer. A well managed private asylum is sometimes a more comfortable residence than a public asylum, for the same reason that a well conducted proprietary hotel is more comfortable than a large joint stock hotel, conducted by a paid manager—that is because of the strong personal interest which the proprietor has in it."

The reply to the second objection can best be made, and practically must be made, by general practitioners of medicine themselves. The insane patients, who are placed either in private or in public establishments, are, in the first instance, under the care and advice of general practitioners, or of specialists in the treatment of diseases of the nervous system, who are in no way interested in establishments, either public or private. If the circumstances are such that they think they can subserve the best interests of their patients by treating them at their homes or elsewhere, they certainly can and ought to do so. But if they consider it best for their patients to be

treated away from their homes, it is not only their duty and privilege so to recommend, but they are also expected to give advice with regard to the location and sort of care which in their opinion would be best adapted. Their rights, privileges and duties in this regard do not differ in any respect from their rights, privileges and duties in regard to their other patients.

Dr. Bucknill, who with singular inconsistency has advocated the policy of having the state take charge of all the insane, while acknowledging that the better class of private establishments not only must survive but ought to survive, is the chief exponent of the objections which have just been discussed. Hence, whatever he may have to say in favor of private establishments may fairly be considered as the expression of the candid opinion of a man who will not be suspected of a bias in favor of such establishments, and who has enjoyed exceptional opportunities for the study of the subject. His description of the sort of establishment that should survive, moreover, is in accordance with what is intended to be advocated for the private care of the insane in this paper. In his recent work on the "Care of the Insane," Dr. Bucknill writes as follows:

"Proprietary asylums differ so widely from each other that no information can be gained by considering this part of the question in the abstract, and it would be inconvenient to study in the particular. But the whole class of such asylums may be divided into sub-classes, of which kinds may be given, not representing any particular institution, but representing a group; and in this manner the question may, perhaps, be considered with a probability of coming to a right conclusion. First, there are those asylums which are instruments in the hands of true physicians for the cure of mental disease. Outside members of the profession have free access to patients in asylums of this kind, and often advise in their treatment. There is a free and most wholesome readiness of exchange of patients between the asylum and home life, into which the care of the asylum physician follows them. The patients, therefore, are very far from feeling that they will remain in the asylum "until they die;" nor is their liberty restrained while they remain, more than is absolutely necessary for their safety. After having been discharged they are frequently not unwilling to return. Consequently, the place has very little of the air of detention about it, and the inmates are not depressed, but free spoken, in comparison with the sullen people one meets with in other asylums. They

are patients less than captives. The greatest distinction ought to be drawn between the true asylum physician and the mere asylum proprietor. \* \* \* Such an asylum must and ought to be a survival under any change in the law."

It is noteworthy that the general opinion of the Lunacy Commissioners in England, with regard to the better class of "Licensed Houses," is in accordance with the opinions just quoted from Dr. Bucknill. The Earl of Shaftesbury says as follows :

"My experience of the various asylums—private as well as public—is not only favorable to the highest order of intellect, but to the truest and deepest sentiments of humanity towards the poor creatures who are there confined."

It is to be observed that the objections to "Licensed Houses," to which reference has been made, come for the most part, if not altogether, from England, and there are peculiarities in some of the private institutions for the cure of the insane in that country, which are, presumably, a sufficient ground for these objections. Private establishments there are to a considerable extent a survival of older methods; and some of them may not have kept pace with the advances which have been made in more recent times. Only two-thirds of these institutions are under medical control, and it is not unlikely that in other cases the medical control is merely nominal. Some of them are large, receive patients at low rates, and are situated in the midst of crowded cities, where needful space cannot be afforded for out-door life. The following statistics regarding private asylums in England and the United States, will be of interest in this connection; and it will be seen from a study and comparison of these statistics that in England private asylums may perhaps be in excess, and hence too cheap and not adapted to the special work to which they should be limited.

In the United States, there are, in round numbers, sixteen hundred patients in chartered private asylums, and only three hundred and fifty in private establishments proper. In England, there are, in round numbers, nineteen hundred patients in registered hospitals, which correspond to our chartered asylums, and five thousand who are kept

in "Licensed Houses," and as private patients. In consideration of the fact that the population of England is only one-half that of the United States, the latter figures should be doubled in order to show the proper ratio of the patients thus cared for in the two countries. There are ninety private establishments for the care of the insane in England, thirty-three of which are metropolitan asylums. There are, on an average, nearly fifty patients in each of these asylums; and an average of more than seventy in the metropolitan asylums. Only thirty of these ninety establishments have few enough patients to entitle them to rank as homes. The average number of patients in the private establishments for the care of the insane in the United States is about sixteen. Half of these establishments may be ranked as homes; and in all of them the direct control and management are medical.

No attempt has been made to compare the curative advantages of private care with the curative advantages of asylum care, for the reason that statistics are not available, which are exact and definite enough to aid very much in the solution of the question. The important question is, not whether a greater number of the patients recover under a certain form of care than under another, but whether a particular patient would be more likely to recover under this or that form of care; or, more broadly, whether all the patients who are actually placed under one sort of care would be more likely to recover than they would be if they had, at the same time, been placed under another sort of care. While there is abundant reason to believe that the smaller the establishment the better the chances of a cure, circumstances differ so much in different classes of patients that exact proofs of the soundness of this belief are lacking.

On the first accession of insanity the question often arises, especially if the patient is depressed in mind, whether traveling with a suitable companion may not be advisable. It is hoped by the friends that leaving old associations and causes of annoyance, and actively



occupying the mind with new and pleasing scenes and adventures, may effectually promote the return of bodily and mental health. The conditions of the problem vary so much in different patients, that each case must of necessity be considered by itself. Yet there are certain general considerations that will be of value as aids in in forming an opinion.

If the premonitory symptoms of insanity are recognized, and the patient can be withdrawn by traveling from the work or the worry which are actively bringing on the disease, this course may be a wise one. The indication for a removal of the cause will thus have been fulfilled in a way likely to be agreeable to the patient.

But if the patient has already become actually insane; if the body and the mind have already become overwhelmed, the necessity of rest is among the most important of the indications. Change will none the less be required, but it should be under circumstances which will admit also of physical and mental rest. Such rest cannot be secured in connection with ordinary traveling, with its publicity and constant excitements. It must be remembered, too, that important and unexpected changes may at any moment take place in the patient's condition which will necessitate a fixed home and special care. If traveling be undertaken at all, it should be preferable by means of a private conveyance, in quiet portions of the country where needful rest can be secured, and not too far from some asylum or home to which the patient may be taken if necessary. The cases of suicide or of maniacal exacerbations which sometimes occur in recent cases of insanity while traveling, serve as a warning to observe caution in this regard.

There are two classes of patients, however, for whom traveling may be especially beneficial: those who have almost, if not quite, recovered, and certain patients whose mental condition has been stationary for a considerable period of time, although there are no evidences of incurable organic changes. Convalescence, after a residence at an institution

or a home, may sometimes be more firmly established by a journey before the patient returns to his business or to his home. A few weeks or months of travel, moreover, will afford agreeable topics of conversation, which will serve to prevent embarrassment when he meets his old acquaintances, and converses with them about the period of his absence from home. Then, again, there is a class of insane patients whose mental condition, after a certain degree of improvement, which has given promise of a speedy recovery, sometimes becomes stationary, or may deteriorate without apparent cause. They seem to have fallen into a state of mental stagnation. In such cases, it is often advisable that the patient be removed to some other location, and, if possible, placed under different influences. He may, with hope of benefit, be removed from one institution to another, or from one home to another. It has been observed even that convalescence sometimes speedily takes place when such patients are removed from institutions to their own homes. Traveling may be of especial service in some of these cases, and, at least, is worthy of serious consideration as a means of improvement.

Of course, patients who are especially excitable, or who are subject to sudden changes in their moods and feelings, are unsuitable for travel; but there are many chronic, incurable cases who may be rendered happier in mind and more healthy in body by judicious traveling under proper care and supervision.

One other form of private care for the insane remains to be considered, that is, care at the patient's own home. Such care pre-supposes that the attending physician is reasonably well-educated on the subject of mental diseases; and, also, that he has a clinical knowledge of insane patients, as he is expected to have of other patients and their diseases. It is of great importance that every general practitioner of medicine should have knowledge of this sort, and for very cogent reasons. Patients who become insane are, in the first instance and during a

very important period of the disease, under the care of general practitioners. Their judicious management at this time may decide the favorable issue of the case. The disease may be acute and sudden in its accession and transitory in character, if under wise management. Or special advice and care may not be attainable; or, again, the disease may be slow and insidious in its accession, and, in such case, an early recognition of the disease, at a period when advice is of most service may depend upon the family physician. And, if ultimately the attack can neither be prevented nor the patient treated at home, the attentions of such a physician will, at least, have exerted a favorable influence on the course of the disease, and he will also be able to give the specialist, into whose care the patient is finally placed, important information and advice bearing on the subsequent management of the case.

One of the most important of the questions to be decided is whether it is advisable to treat the patient at home or not. Inasmuch as in the majority of cases there are serious difficulties in the way of successful home treatment, both with regard to the patient and with regard to the other members of the family, it will be of advantage first to consider these difficulties and contra-indications.

It is a well known fact that insane patients are, as a rule, less easily managed by the members of their own family than by others. Their insanity necessarily makes important changes in their relations with other members of the household. They find themselves thwarted, opposed, or restrained, where they formerly had liberty; that their opinions and wishes, which were formerly respected and heeded, now apparently receive little consideration; or even that their authority, which they had formerly exercised without question, is now ignored, and that they themselves are placed in subjection. As they cannot appreciate the reason for this great change, they become irritated by the new relation of things. They do not

realize that they themselves have changed, and hence infer that others have changed in their feelings and designs towards them. Not unfrequently these changed circumstances are sufficient to convince them that their most intimate friends and relations have without reason become their active enemies. If the patient have insane delusions of suspicion, these delusions are most likely to be fixed upon their immediate friends and relatives, and to be stimulated by their presence. Again, it is often very difficult for the relatives of an insane patient to appreciate to what an extent he is insane. They see that he reasons well enough and conducts well enough in some particulars, and cannot fully realize why he should be so unreasonable in other particulars; or, if they do appreciate the facts, they are constantly forgetting them in practice. Their great anxiety, and the extreme interest they feel in the patient, are liable, on the one hand, to render them intolerant of his shortcomings, or, on the other, to render them too yielding to his many foibles and caprices. It must be remembered, too, that the existence of insanity implies the possibility at least of an inherited predisposition; and, if an inherited predisposition should exist, such a constant cause of anxiety, irritation and mental strain as his presence would involve might, and probably would, be very prejudicial to other members of the family. Then, again, the social relations of many families are such that the presence of an insane relative, however mild the type of insanity might be, would prove an unbearable cause of irritation, annoyance and mortification. If the patient were to remain at home under such circumstances, there could be no home-life for him.

The general rule would seem to be, then, that insane patients can be best managed away from their own homes.

But yet there are many cases which might better for a period of time, or even altogether, remain at their homes under such medical advice as might be required. Reference has already been made to one class of these patients,

that is, recent cases that are likely to be of brief duration; and especially when there are serious obstacles to prevent their removal and treatment elsewhere. It is possible, and even probable, that the whole economy of the household will need to be made subservient to them, but this is no more than would be required in many other sorts of sickness. If their anticipated recovery should speedily take place, the course pursued would be a cause of satisfaction both to the patient and to his friends. If home treatment should prove unsuitable, no great harm is likely to ensue from a brief, judicious trial. The decision of the question, whether treatment at home should be attempted or not, ought to be left entirely with the attending physician, who will take into careful consideration all the circumstances connected with the family, the patient, and the disease.

There is another and quite numerous class of patients who can live in any suitable family well situated for their care. They are, for the most part, chronic cases of insanity, in which the active symptoms have passed away. They are quiet, harmless and unobtrusive, and, if they have no antipathies against their immediate relatives, are well fitted to reside at home. Not unfrequently such patients are removed from asylums for the insane, where they had been kept for years without change in their mental condition, and afterwards reside at home with decided benefit to themselves, and without serious inconvenience to their families.

The following is a brief recapitulation of the leading points that have been set forth.

1. That public institutions have hitherto been, and for an indefinite period in the future are likely to be, inadequate for the care of all the insane who need to be removed from their own homes.

2. That public asylums, on account of necessary economies, their great size, overcrowding and other causes, cannot become the best establishments for the care and treatment of all the insane.

3. That the smaller the number of insane patients associated together, in one establishment, the better it is for the patients.

4. That the greater the ratio of sane persons associated with and in care of the insane, the better it is for the latter.

5. That chartered asylums, private institutions and private homes, each afford peculiar advantages for the care of the insane which cannot be afforded in public asylums; and, hence, that they supply a social need.

6. That the treatment of many, if not of a majority of the insane in an ordinary private house, is feasible; and that in suitable cases this method of care and treatment, under family influences and associations, and apart from the associations and restraints necessarily incidental to institutions, has special advantages for the patient not otherwise attainable.

7. That many indigent insane persons who have hitherto been confined in public institutions, might be satisfactorily cared for in private families in their own social sphere; and that judicious attempts to accomplish this object are advisable.

8. That whenever more than one insane patient is under care and treatment in the same house and family, a competent physician should be the head of the family and in responsible charge.

9. That every insane person, who is not in immediate charge of his own relatives, at least, should be subject to state supervision, and should be under the professional care of a competent physician.

10. That while certain recent cases of insanity ought to be treated at their homes for at least a period of time, and while certain chronic cases may advisably remain at home permanently, it is for the best interest of the majority of insane patients and their relatives, that provision be made for their care and treatment elsewhere.

## Art. III.—Contribution to Mental Pathology.

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### CODIFICATION OF THE COMMON LAW AS TO INSANITY.

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I AM sure that the acute minds of many of our most distinguished physicians and lawyers have not failed to perceive the incongruities and deficiencies of the present law, and yet there are many who seem adverse to any attempt to make the law of insanity more conformable than it is with medical science. Lord Justice Bramwell told the select committee on the homicide bill: "I think that although the present law lays down such a definition of madness that nobody is hardly ever really mad enough to be within it, yet it is a logical and good definition." He further stated that in his opinion, "the law was right, because it might deter many insane persons from crime by the threat of punishment." Lord Justice Blackburn, in his testimony before the select committee on the homicide bill, said: "On the question of what amounts to insanity that would prevent a person being punishable or not, I have read every definition which I could meet with, and never was satisfied with one of them, and have endeavored in vain to make one satisfactory to myself. I verily believe that it is not in human power to do it. You must take it that *in every individual case you must look at the circumstances* and do the best you can to say whether it was the disease of the mind which was the cause of the crime, or the party's criminal will." He also said: "*but we cannot fail to see that there are cases where the person is clearly not responsible, and yet knew right from wrong.*"

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\* Physician to Sunnyside: a private hospital for nervous and mental diseases, inebriety and the opium habit.

He then goes on to give the case of a woman he tried, who had killed one child, and was going to kill another, but who fortunately dropped the second child and went to a neighbor, telling her what she had done. This woman clearly knew the difference between right and wrong, and knew the character of the act, and, on the definition in the McNaughton case, in 1843, was guilty. Lord Justice Blackburn, however, as the woman was as a raving maniac, so charged the jury on the ground of exceptional cases, that the jury found her "not guilty, on the ground of insanity;" and rightly. The Lord Chief Justice of England, in his criticism of Sir Fitzjames Stephenson's plan of codifying the law of insanity, said:

"As the law, as expounded by the judges in the House of Lords, now stands, it is only when mental disease produces incapacity to distinguish between right and wrong, that immunity from the penal consequences of crime is admitted. The present bill introduces a new element, the absence of the power of self-control. I concur most heartily in the proposed alterations of the law: *having been always strongly of opinion that, as the pathology of insanity abundantly establishes, there are forms of mental disease in which, though the patient is quite aware he is about to do wrong, the will becomes overpowered by the force of irresistible impulse; the power of self-control, when destroyed or suspended by mental disease, becomes, I think, an essential element of responsibility.*"

The Lord Chief Justice of England, in his weighty and truly scientific opinion, the intrinsic weight of which is immense, deserves the admiration of both the medical and legal profession all over the world. Lord Moncrief, the Lord Justice Clerk of Scotland, has said from the bench that "*in point of fact, there are very few lunatics who do not know right from wrong,*" an opinion which I have myself insisted on before the New York Medico-Legal Society in two different papers read there. If we have *the absence of self-control produced by disease of the body affecting the mind*, in any given case of homicide on trial, it seems to me that every physician and every fair-minded lawyer will concur in acknowledging that we have here a philosophic or scientific principle on which to found the plea of "not guilty, on the ground of insanity," and one which includes the cases of all insane criminals. It does



not seem to me that, in the question of what constitutes insanity, the members of the two great professions of law and medicine should, or at all need to, entertain essentially different and irreconcilable views, or that on the question of the irresponsibility of criminals who are supposed to be insane, there should be such a diversity of opinion as exists to-day. The physician naturally studies the whole history of his patient and his ancestry, and searches for the causes of any bodily and mental changes that he finds, and thus arrives at the true pathology of the disease; while the lawyer and jurist are mainly interested in the *existence* of mental disease, its *degree*, and its *influence on conduct*. We know far more about insanity than they did in the last generation, and it is obviously unfair that laws pertaining to insanity, when the knowledge of that disease was comparatively in its infancy, should not be amended to keep pace with our increased knowledge of the pathology of mental disease. In that form of homicidal monomania, where the patient is possessed of a sudden, blind, motiveless, unreasoning impulse to kill, I do not think that there is any desire, motive or reasoning intention to commit such a deed, the true pathology of this form of insanity consisting, it seems to one, in a *vis a tergo* received from the diseased action of the brain. We have here a *diseased state of mind with absence of self-control*. We have in suicidal monomania also, a *vis a tergo* received from the diseased action of the brain, in which, while our patient, perhaps, exhibits no other mental derangement, with no delusion or other intellectual disorder, has the blind, motiveless, unreasoning impulse to suicide, which, alike with the homicidal impulse, is the joint result of undoubted insanity. In both these cases the impulse is long, enduring and gives rise to actions of patient deliberation and of cunning contrivance. The physician and the legal profession are willing alike to recognize disease in the suicidal act; why, then, the apparent unwillingness to recognize disease in the homicidal act? We must not

look at these questions socially or ethically, but by the aid of the light of modern pathology, as the Lord Chief Justice of England has done already. There are many persons born with a predisposition to madness, and symptoms indicating that disease, display themselves at frequent intervals through the whole course of life, but for many years may never reach such a pitch as to induce those in contact with such persons to treat them as insane. When an overt act *is* committed by such persons can anyone question the value of a careful examination of the past life and acts of the accused? His life has exhibited the natural history of insanity, and, with our present accurate and trustworthy method of investigation, a careful and experienced physician in nervous diseases can clearly point out to the lawyer and jurist the unmistakable evidences of mental disease, which the latter, necessarily, alone and unaided, could not discover. The physician and lawyer should mutually aid each other in such investigations, impartially and by the light of science. There should be no rule of law that conflicts with the elementary truths of insanity, on which only such rules should be founded, and medical jurisprudence is of value only so far as it represents the acknowledged truths of science. No honest, scientific conclusion, however great an advance it may be upon existing views, is a dangerous innovation. There is a very false idea in the minds of well educated persons, which I desire here to correct, that the skilled opinions of the medical witness—the result of years of reflection and experience in his particular specialty—that the perceptions of truth of the medical expert are obscured by the fact of his receiving a fair compensation for his services. The medical expert is called upon by the lawyer who lays before him the evidence to be produced, and asks him for his opinion respecting it. The physician informs him either, that if he can prove the facts as he states them, he has a good case, and expresses his willingness to testify to that effect, or he tells him that the facts of the case *do not*

justify the construction which the lawyer desires to put upon them, and declines to testify in the case.

The testimony of an honest medical expert is never wholly and unconditionally in favor of one side only, *unless such a result be warranted by the facts*. His judgment is *not* warped by the fact of his receiving compensation. If a lawyer comes to the physician and, by an exaggerated statement of facts, enlists the physician's aid as a medical witness, he will find that, if upon an examination of the case the facts do not appear as represented to the physician, the latter, if a scientific man, will either modify or entirely abandon his first conclusion, and decline to testify in the suit.

The frequency of epilepsy, and its injurious effect on the mind, makes its medico-legal relations a subject of great importance, and I have elsewhere pointed out that epileptics are to be classed in the most homicidal group of all the insane.

The late Dr. Ray, of Philadelphia (one of the most eminent of American experts, and one of the most brilliant and scientific men of the profession, a man who had devoted himself to the study of mental pathology for years, and who, in his writings, always displayed thorough observation and original thought; and to whom, in his contributions to mental pathology, his friends can fitly apply the words of Sartor Resartus: "Beautiful it is to understand and know that a *thought* did never yet die, that as thou, the originator thereof, hast gathered it and created it from the whole *past*, so thou wilt transmit it to the whole *future*,") speaks as follows respecting epilepsy:

"The excessive susceptibility of epileptics to nervous impressions, which become distorted if not utterly changed on their way to the sensorium, is a phenomenon not clearly recognized by the profession at large, although it cannot have failed to meet the attention of the closer observer. In medico-legal inquiries, it should never be ignored or forgotten, for it may be the very phase of mental disturbance which prompted the criminal act. In view of what we already know of epilepsy, and of what still remains to be learned, we have a right to require the utmost circumspection and closest investigation whenever the legal

liabilities of epileptics are in question. The fact of its existence being established, is it going too far to say that legal responsibility is presumptively annulled, and that the burden of proof lies on the party that alleges the contrary? People are scarcely ready for it yet, perhaps, but to that complexion must they come at last."

In none of the neuroses is the presence of the elements of moral obliquity, emotions of suspicion as the mainspring of conduct, maniacal fury, sudden ebullitions alternating with periods of lucidity, suicidal or homicidal mania, so conspicuous as in epileptic insanity. Esquirol says that out of 339 female epileptics treated in Charenton, only sixty exhibited no aberration of intelligence. An epileptic convulsion may not occur, but may be represented by sadness, dejection, by sullenness, by ebullitions of rage and ferocity—a *mania transitoria* signalized by suicide, homicide, and every modification of blind and destructive impulse. Trousseau, the great French physician, has said, that wherever there was a revolting or motiveless crime, he suspected the existence of epilepsy; and the late case of Laros of Pennsylvania, who poisoned his whole family, is an example of just such cases. The awakening from epileptic stupor may often resolve itself into an outburst of mental derangement, manifested by extreme vehemence, violence and destructiveness.

I have also stated that puerperal women, and women at the climacteric period are subject at times to dangerous delusions, and also that kleptomania is a peculiarity of a certain number of cases of general paralysis. These facts are classical, and should be so accepted by the legal profession. One of the last cases of general paralysis under my care, was that of a gentleman of prominence and wealth, who would slyly secrete articles of absolutely no value to himself and carry them home, and who, after being placed under my care, manifested this peculiarity for many months, so that his nurse would every few days have quite a collection of small articles to gather up and return to their appropriate places. I have observed this in cases of the ordinary type with grand delirium, and also in the senile form, characterized by progressive

enfeeblement of the intellect and of long duration. It is a very interesting question in mental pathology, whether we are entitled to hold, in general paralysis of the insane, that the resumption of apparently healthy mental action, which we see in the remissions that sometimes occur, is compatible and co-existent with persistent structural degeneration? In other forms of mental disease also, after a mental darkness created and maintained for years by the presence of brain wasting, hypertrophy or consolidation of brain-tissue, with what cerebral condition can we identify these sudden flashes of restored intellectual light? In a paper on "Mental Responsibility and the Diagnosis of Insanity in Criminal Cases," read before the New York Medico-Legal Society, and subsequently published in the *London Journal of Psychological Medicine and Mental Pathology*, I suggested a series of eight questions, which, it seemed to me if adopted by jurists in criminal cases, would form a most efficient and just test in any given case. Perhaps the legal profession may prefer the simpler proposition, which, as the result of Sir Fitzjames Stephen's attempt to codify the common law of England on insanity, may be briefly summed up as follows, viz: *Homicide is not criminal, if the person by whom it is committed is, at the time when he commits it, prevented by any disease affecting his mind from controlling his own conduct.* This is very simple and very comprehensive, and therefore the legal profession may very properly prefer it to my own. The eight questions which I proposed in my paper are as follows, viz:

1st. Have the prisoner's volitions, impulses or acts been determined or influenced at all by insanity, and are his mental functions—thought, feeling and action—so deranged, either together or separately, as to incapacitate him for the relations of life?

2d. Does the prisoner come of a stock whose nervous constitution has been vitiated by some defect or ailment calculated to impair its efficiency or derange its operations?

3d. Has the prisoner been noticed to display mental infirmities or peculiarities which are due either to hereditary transmission or present mental derangement?

4th. Has the prisoner the ability to control mental action, or has he not sufficient mental power to control the sudden impulses of his

disordered mind, and does he act under the blind influence of evil impulses, which he can neither regulate nor control?

5th. Has the act been influenced *at all* by hereditary taint, which has become intensified, so that the morbid element has become quickened into overpowering activity and so that the moral senses have been overborne by the superior force derived from disease?

6th. Was the act effected by, or the product of insane delusions?

7th. Was the act performed without adequate incentive or motive?

8th. Does the prisoner manifest excitement or depression; moody, difficult temper; extraordinary proneness to jealousy and suspicion; a habit of unreasonably disregarding, ordinary ways, customs and observances; an habitual extravagance of thought and feeling, an inability to appreciate nice moral distinctions; and, finally, does he give way to gusts of passion and reckless indulgence of appetite?

Some, or all, of these are found generally in connection with transmitted mental infirmity. It may be argued that these mental defects signify not mental unsoundness, but human imperfection. Certainly, if we take these manifestations in No. 8, any one of them, singly and alone, we cannot claim such a one as invariably an indication of insanity; but, on the other hand, under certain circumstances, each one of them may be an unmistakable sign of insanity, or rather of a morbid cerebral state, which may readily lapse into insanity. The disappointments and calamities of life obviously act with greater effect upon an unstable mental organism; these causes of disturbances, meeting with a powerful coöperating cause in the constitutional predisposition. Sometimes a crime, even when there have been no previous symptoms to indicate disease, makes the period when an insane tendency has passed into actual insanity—when a weak organ has given way under the strain put upon it. It is an important point in mental pathology to recognize the fact, rendered classical by antiquity—Celsus, who practiced during the reign of Tiberius, and who wrote eight books on medicine, having clearly expressed this law of morbid sympathies and idiosyncrasies—that it is the diseased or weak organ that retains all too strong impressions that effect the economy, and which becomes the center with which are connected all the sensations and all the disorders communicated to the body. The laws of

hereditary transmission operate very often in the development, in successive generations of the same family, of an unstable mental organism, too delicate to stand the wear and tear and haste of modern civilization, and such persons also often exhibit a true congenital deprivation of the normal intellectual faculties. There is a class of persons, with a peculiar nervous temperament, who inhabit the border land between crime and insanity, one portion of which exhibit some insanity, but more of vice; and the other portion of which exhibit some vice, but a preponderance of insanity, and it is very difficult to form a just estimate of the moral responsibility of such persons, especially when we reflect upon the fact that moral feeling is a function of organization, and is as essentially dependent upon the integrity of that part of the nervous system which ministers to its manifestations, as in any other display of mental function. I have met with cases in which, as a result of parental insanity, there has been a seemingly complete absence of moral sense and feeling in the offspring, and this has been a true congenital deprivation, or a moral imbecility, so to speak; of course, such children can hardly fail to become criminals. In this connection, it is interesting to note that moral degeneration often follows as a sequence upon disease or injury to the brain. A severe attack of insanity sometimes produces the same effect, the intellectual faculties remaining as acute as ever, while the moral sense becomes obliterated. It is an important medico-legal point relating to psychological medicine, that not every improvement is the commencement of convalescence, nor is the appearance of a few healthy traits an unquestionable presage of recovery. It is not rare to find a complete remission, consisting in the temporary disappearance of every sign of mental disease during the first month of an attack of insanity, followed by a renewed intensity of the disease.

This, of course, is no more a recovery from disease of the brain, than the remission in malarial fever is

indication of recovery from malarial fever. I have repeatedly witnessed such remissions even in incurable organic diseases of the brain. We cannot explain these cases, but that they occur is perfectly well known to every specialist in diseases of the nervous system, as well as to most observant physicians. It should be borne in mind, therefore, that there may be a condition of mind resembling recovery, but where there is a latent irritability of the brain ready to break out in active insanity, were not such persons prevented from assuming the cares, anxieties and responsibilities of life for themselves. Unreasonable and uncontrollable restlessness and excitement or depression generally characterizes these apparent recoveries, and also very often a peculiar bitterness towards the institution where they have been treated with all gentleness and skill; whereas, in genuine recoveries, it is the rule to find patients entertaining the most lively gratitude to their physician and toward the institution in which they were treated. Dr. Pliny Earle, of Northampton, Mass., one of the most eminent American alienists, the late Dr. Ray of Philadelphia, and the most eminent English alienists have all expressed themselves unanimously on this point.

There are forms of chronic insanity in which the mental manifestations are distinguished less by delusions and gross incoherence, than by a certain mental irregularity and unsteadiness easily recognized by one familiar with diseases of the brain, where the mind is agitated and controlled by each new impulse; and yet this form of mental disease under our present law is clearly incompatible with the kind of insanity which annuls criminal responsibility, for, as a rule, all these cases of which I speak can clearly distinguish between right and wrong.

Finally I would speak of the immense importance of the recognition of the mental condition that is the precursor of decided insanity. This is one of the most interesting points in mental pathology. The depression, unwonted excitability, disregard of the minor proprieties



of life, the change which comes over the warmest affections, quick changes and rapid transitions in the current of the feelings, sleeplessness and a complete change of character and habit; the person meanwhile entertaining no delusions, but occasionally losing his self control, the general air and manner at such times being strongly expressive of the inward emotion; intervals of perfect calmness and self-control, during which the person clearly discerns his true relations to others, and even, perhaps, recognizes the influence which the incipient disease exercises over his feelings and actions; with, finally, the utter downfall of the integrity of the intellect, manifested by the fury of mania or the moodiness, suspicion, depression, and impulses toward self-destruction of melancholia. All these are the successive links forged in the chain of insanity, the study of which is full of interest to the student of mental pathology, who is interested in the amelioration of this scourge of life, and to those who are interested in leading back the wandering mind out of the darkness and mazes of disease into the unclouded light of reason. Such aims are worthy of the warmest sympathy, the deepest respect, and the strongest help of the community.

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## Art. IV.—Accesses of Lypemania Agitata Resulting from Epilepsia Larvata.\*

MEDICO-LEGAL INVESTIGATION BY PROF. A. TAMBURINI.

Translated by JOSEPH WORKMAN, M. D., Toronto, Canada.†

THE medico-legal case which we now report relates to an individual whose whole life has been a continuous alternation between crime and insanity and has been passed almost wholly between prisons and insane asylums; its history has, therefore, appeared to us deserving of much study, since it is affiliated with some of the most interesting problems of psychiatry and of criminal anthropology.

CASE.—On the 10th of February, 1879, there was brought to the insane asylum of Reggio, one R. C., a traveling mercer, aged forty-one years, a resident of L . . . (Milan), in a state of violent agitation. He shouted, raved and endeavored to knock his head against the wall. It was necessary to fix him on the bed, where, through two days, tossing continually, he refused food persistently. Shouted day and night, sleeping only a short time under strong doses of chloral; he complained continually, now of seeing a serpent, and now of having a snake in his head, which he howled to have driven out; anon he uttered prayers, and then lapsed into blasphemies; he often cursed his wife and spoke weepingly of his children. On the third day his agitation diminished, and he took some food; he then awoke, as if from a dream, demanding to know "*how he had ever been brought here, and what wrong he had done,*" but still showing himself confused and lost.

\* On the mental state of R. C.—Charged with dextrous crime and resistance of the peace officer s; having relapsed into offence for the twentieth time, and for the sixth time into insanity.

† From the Italian of *Revista Sperimentale di Freniatria*, etc.

In a few days, however, he resumed his regular mental aspect, and took part in the work of the apartments, but every second or third day he fell off into a state of dullness, quitting his work, becoming contentious and persistently silent, and, as if suspicious, he shunned the company of the other patients, and also of the attendants, talking often to himself. This state lasted one or two days, and then he resumed his regular deportment, which, from the end of February to the present time (June, 1879), has been, in every respect, blameless.

Having been called by the illustrious judge to give my opinion as to the state of mind of R. C., the documents relating to the charge on which he was held were furnished to me; and from these the following facts were obtained:

"On the morning of the 10th of February, 1879, R. C. was arrested by the police at the station of Modena, because, whilst they were watching there, having been informed that he was a daring pickpocket, a certain M. was lamenting that he had been dexterously robbed (being pushed by R., who thrust his hand under his axilla) of a pocketbook which contained £10. They arrested him, but he began to resist and to shout, and then to use his fists and his feet, so that with difficulty they succeeded in placing him in a carriage and conducting him to the hall of the magistrate. Having arrived there, he continued to cry out and to be much agitated; he took up two drinking glasses and smashed them on his head, then he tried to knock his head against the wall; among his outcries and incoherent words, the most notable phrase was, that "his wife had betrayed him," and his agitation so much increased that eight men were unable to restrain him. The attendants of the hospital of Modena being called in, they succeeded in putting a camisole on him, and, in consequence of the great disturbance he was causing, he was immediately removed to the lunatic asylum of Reggio."

In consequence of these occurrences, the justice requested my opinion as to "the nature of the malady of R. C., and his responsibility in the double offence with which he was charged"—that is, "the theft with dexterity" and "the resistance to the police."

As the accomplishment of a dexterous theft, with every appearance of perfect reason, and the appearance of a maniacal accession immediately after arrest was certainly a surprising circumstance, and as I was absent at the time, and could not witness the paroxysm under which R.

appeared to labor during the first days of his residence in the asylum, I deemed it incumbent on me to ascertain all I could as to his past life, and to derive from accurate records light sufficient to show the real state of the case.

HISTORY.—To facilitate the enquiries on which the processual articles did not furnish to us any data, we have found some important records of the case of R. C. on his first entrance into this asylum, which was in 1877, when he was subjected to examination. To supply the want which exists in our notes from the date of his departure from the asylum of Reggio, Sept. 22d, 1877, to the day on which he was brought back, in addition to the information obtained from himself, we have been able to procure from the asylums of Placentia and Voghera, where he was received in the interval, some details, besides a copy of the examinations to which he was there subjected, one of which is in printed form.

With all these data we are in a position to reconstruct the life of R. C., and to draw forth all the elements which may serve to guide us to a decision. A great part of his history is derived from the examination made in the asylum of Reggio.

R. C. was born at L——, on the 6th of July, 1838; his nature and character were weak and unstable; his intelligence was rather limited, and was stifled by an irregular and licentious life. For a long time he was intemperate in wine and liquors, so that he was frequently seen overcome by them, and a slave to inebriety. He was many times imprisoned and prosecuted for thefts, rogueries and detention of prohibited arms. Being of a family in fair circumstances, engaged in the business of milling, he contributed much by his dissipated and reproachful life to its financial reduction. After the death of his father, he gave up the work of milling, and separated from the family, adopting the business of a carrier. Soon after this he married a woman of his own district, by whom he had several children. He passed several years in heedless life, associating with companions

who were the refuse of society, and who availed themselves of his thoughtlessness and readiness to expose himself, to draw him in as an accomplice in criminal acts, which brought him under legal penalties. We shall not now dwell on these particularly, but confine ourselves to that period of his life in which his mind gave more or less evident indications of aberration.

In 1872, the tribunal of Sondrio sentenced him to three years' imprisonment for theft. This was the eleventh time that R. underwent punishment for similar offences. In the gaol of Sondrio, he attempted suicide by hanging, but was saved by one of the guards, who was attracted to the cell of R by a particular, unusual noise. R. says that the cause which impelled him to suicide was the mortification of having discovered that his wife had betrayed him, and he, therefore, procured a cord with which to hang himself; but he says he has hardly any recollection of the plan adopted by him for the act, and that, afterwards, he could remember nothing more than that when he came to himself he found his body (? head) wounded and fractured. In fact, he retains to-day, in the left parietal region, the depression of a fracture, which he was told was caused by the fall when the guard cut the rope to save him. He further says that for several days he could not eat, in consequence of the constriction caused by the tightening of the rope on his neck.

He was transferred from Sondrio to Milan to undergo his punishment, but, shortly after, he was removed from the prison to the asylum of Senavra because he showed signs of insanity. According to his own statement, before he was sent to the asylum, he was submitted to the observance of three physicians, *Drs. Biffi, Tarchini-Bonfanti* and *Tassani*, whose decision appears to have determined his seclusion in the asylum. He remained there about a year, but he was remanded to prison as a simulator of insanity, after committing some sanguinary acts.

Having served out his sentence, at the end of 1874, his first thought was to get separated from his wife; for

this purpose, he made a formal demand on the tribunal, alleging that she had carried on clandestine relations with another man; but his application was rejected. With some means yet remaining to him, and the assistance of a brother, he succeeded in buying horses and a vehicle, and commenced the business of a city carrier. A short time after he was found at Como, where on the 6th of April, 1875, he was sentenced to a fine and ten days imprisonment for having used violence to two municipal guards, who, because of his infraction of the regulations for urban cleansing, notified him of the offence.

Being annoyed by the continued *surveillance* over his person, he sold his horses and vehicle, and at once formed and executed the project of going to Chivernia, and opening there a business. He left Como by the postal steamer; during the passage he acted as if insane, talking to himself, making gesticulations and ablutions continually with water to the head. Presently, a gentleman who was among the passengers accused him of robbery, for which he was arrested, and was condemned on the 22d of July by the tribunal of Como to three years' imprisonment for pocket-picking; but, after three months, in October, 1875, he was released by the tribunal of Milan. Twenty days after his release, we find him entered into the asylum of Bergamo, where, as appears from the certificate of the director, Dr. Brugnoni, he was regarded as affected with *mania furiosa*. It appears that he was then also under the imputation of some crimes, as the certificate adds, that on the 25th of November the Prosecutor Royal intimated to the director that "proceedings against R. C. would not be carried out, because of the non-existence of criminality." On the 28th of November, he was "discharged by request of his relatives, in a state of satisfactory mental calm."

In February, 1876, he was sentenced to three months in gaol for detention of prohibited arms. Having served out his sentence, his relatives, in order to withdraw him from the continuous vigilance of the police, which was a

cause of irritation, and, with the hope that detaching him from certain companions might render him quiet and industrious, they took him to Bologna, where, having taken residence, he was engaged as a groom in the riding school of Go . . Giovanni. For some months he performed his proper duties with activity, exactness and intelligence; but afterward there appeared in him an unwonted strangeness and stubbornness of character, which alternated with fatuity and stupidity. His strange conduct led the guardians of the public safety to institute a watchfulness over him, as they had seen him wandering several times suspiciously in unfrequented places. To a brigadier, who demanded of him an account of himself, he made answer with abuse and threats; being stopped a second time by this officer, for the same purpose, he gave vent to invectives and insults, accompanied by extraordinary cries and weeping, so that curiosity drew about him a crowd of people, who judged him to be a furious lunatic. He was imprisoned, and whilst legal steps were being initiated he gave more signs of mental alienation in the gaol, in consequence of which he was sent to the asylum of Bologna, which he entered on July 9th, 1876. There (as is certified by Prof. Roncati) he was recognized as affected with "mental disease of the form melancholic." On the 28th of July, he was liberated (consigned to the R. Carabinieri), "as every manifestation of disease had, for several days, disappeared." From another attestation of the same director, it appears that "he did not permit himself to suspect simulation of insanity, nor even exaggeration of symptoms; therefore, the psychopathic form which the case presented, was designated *melancholia agitata*."

Having quitted the asylum, relieved from the charge under which he had been arrested, he re-entered service in the riding school. He did not, however, give satisfaction in his regular duties; he was inattentive, wilful and idle; he frequently talked by himself, or directed his words to surrounding objects, as hats, coats, and lastly,

the horses. By degrees, these symptoms became more pronounced, so that his employer advised him to go to a proper place and have medical treatment. Following this advice, and having found a suitable residence, he became again subject to a state of agitation, accompanied by constant raving, inquietude, visual and acoustic hallucinations, and he, for several days, refused food. All these phenomena, which lasted more than fifteen days, under a suitable course of treatment advised by a physician, gradually subsided, and his master, finding that he had so much improved, and having decided that he would not re-engage him, intimated to him that it would be well for him that he should go to breathe his native air.

He did, in fact, set out for his own residence, which is near to Milan, carrying with him various objects; but it is not known where he went, for it was proved that he did not reach Milan. Instead of this he turned back to Bologna, and, on the night of the 11th of February, he was arrested at the station of Reggio, for the following reason:

From the through train for Bologna, two strangers descended from a compartment of the third class. One of these, whilst he was preparing to go on board the train, was seen to pass near the other, who with haste introduced his hand into the inside pocket of his jacket, and discovered that he had lost his pocketbook. The robbed man, having seized the thief by his clothes, began to call out; a guard, who was near, ran to the cry. A carbinier, descending from the same train, joined, and, being informed of the occurrence, immediately set about searching the thief, and, in the act of pulling his cloak off his shoulders, the stolen pocketbook fell to the ground. As the train was about to start, the carbinier and the other two entered into a third class carriage; having reached Rubiera, the thief was delivered to the carabinieri of that station, who detained also the robbed man, in order to obtain from him the necessary evidence. From the examination of the robbed man and the robber, it



was learned that the former was a certain B. Eugenio, a rag merchant of Modena, whilst the second designated himself as Go . . . Giovanni, di Melegnano. Being taken to the magistrate's prison of S. Tommaso, and placed in a cell, the judicial instructor in examining the prisoner, found him in a state of great agitation, under the impulse of which he answered only in disconnected phrases, and nothing pertinent to the questions put to him. Continuing in this state of agitation, and disturbing the other prisoners by his noise, his seclusion in the asylum of S. Lazzaro was ordered, and he was received there on the 14th of February, 1877.

During the first days of his residence in the asylum, being placed in a cell of isolation, he presented a very intense state of agitation, he sought to strike his head against the walls, and in consequence it became necessary to fasten him to his bed; he gave forth a continuous lamentation, muttered in a low voice always the same words, among which the phrase "Oh, my poor children!" was more notable than any other. In the presence of the physicians and the attendants, he raised his voice still higher, and uttered disconnected and senseless words, he spoke of seeing a serpent, and he evinced his horror of it by loud cries, and by motions as if striving to get away from it, and escaping the frightful sight; he said he heard his wife under the window talking to her lover, and then he raved and roared till he became blue in the face; he fixed his eyes long on some object, and sustained the most bright light without winking. He frequently called on *Biffi*, *Tarchini*, *Roncati* and *Raggi*, physicians who, as we have seen, visited him and treated him on various occasions. His pupils were permanently myotic. This state of things continued throughout three successive days; in the first two, he refused all food, and only on the third he took some soup; he was taken, at intervals, with violent shakings over the whole body. At the visit on the fourth day, he said he felt rather better, his physiognomy was composed, he spoke in a low voice, but

coherently, and, on learning that he had called himself Giovanni Go . . , he marveled and protested that was not his name, but it truly was R. C. Being asked for what cause he had been imprisoned and then sent to the asylum, he replied he knew nothing at all about it. He remembered that he was domiciled in Bologna, and, having left that place to return to Milan, he did not know by what accident it had happened to him to be now in this totally unknown place. In the succeeding days, he progressed in quietude, he slept in the night and took food regularly; he requested to be raised, and that he might be occupied in some sort of work. Being once more questioned as to the cause of his arrest, he said he did not recollect anything relating to that fact. The shaking of the trunk continued, from time to time; he went on lamenting about the serpent which he strove to drive away; he rubbed his left ear, complaining that he heard bad voices continually abusing him; he spoke of his children, and was in despair because he was not in a position enabling him to succor them in their wants; he wrote a letter, sensible enough, to his relatives, praying them to come and see him. An aunt and cousin arrived from Bologna, whom he received very gladly, but he held towards them a rather strange deportment. After this he set to work in the apartments, and attended to the interior cleaning, and he said he felt very well. In this state he continued to March 19th, when he fell again into great agitation, repeating the same complex phenomena as before mentioned. During the access he broke a pane of window glass; he took possession of a fragment and with it he wounded himself in the left temporal region, saying he had wished to cut the artery, but he failed in so doing. On the 27th day he became calm, but replied with fatigue to whatever question was asked him; he complained of being very tired. He returned to work and resumed his regular deportment.

In May he had another access, equal in form, duration and intensity to those already described. He presented

two other accesses in June and July. Besides the preceding statement, it is to be mentioned that in the periods of agitation he has attempted by several methods in the asylum here to commit suicide. Once he broke a bottle and tried to cut the radial artery; another time he tried to strangle himself with a handkerchief. When he returned to himself he said he did not remember anything he had done, nor what he had said, or seemed to see and hear in the access.

The objective examination, made in his calm state, showed a certain degree of electric analgesia, and by the ophthalmoscope hyperæmia of the retinal vessels was observed.

All this (for I at that time had not the opportunity of seeing him until he was re-established in health) was the result of the observations of Dr. C. Nebbi and Prof. Carelli, who being called to pronounce judgment on the mental state of R. C., and upon his responsibility in the theft committed by him, basing their opinion upon all the historical data and on the phenomena repeatedly presented in the asylum, as well as on the data of the objective examination, concluded that the case was one of "*mania accensualis from epilepsia larvata*;" and, therefore, when he committed the crime with which he was charged, he could not have been of sound mind, and so much the more so, as in that epoch he had not yet recovered, as appears from the history, from one of his usual attacks, which was treated in an appropriate house, and they therefore held him to be completely irresponsible. It was therefore announced that the prosecution would not proceed, and on 22d September, 1877, he was discharged from the asylum and given over to his family. After remaining some time with them he returned to his itinerant life of a peddler; but in April, 1878, he was again committed to the asylum of Bologna, where he remained till the end of the following May.\*

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\*From the favor of statements given me by Prof. Roncati while this article was in the press, it appears that between the end of 1877 and the first month of 1878, R. C. was received again into the asylum of Bologna, and remained from Dec. 23d to March 2d, 1878. This new confinement was preceded by a new crime, and brings the number of charges up to twenty-one, and that of asylum confinements to eight, as shown in the table hereafter given.

It appears that he was then also under imputation of some crime, and was conducted to the asylum by order of the Tribunal.

Having departed, we find him in less than three months, *i. e.* August 11th, in the asylum of Placenza. Upon that day the agent of the P. S. had seen him moving around among the crowd at the August festals, then in process of solemnization, with the constant demeanor of a suspected man who was trying to evade every person who noticed him, and especially these agents who, after it was announced to them that a pickpocket was about suspected that he was the guilty one, accosted him, asking if he was provided with regular testimonials. He then began to rave, protesting that he was not insane, and, when the guards proceeded to arrest him, he resisted and tried to strike them, breaking out into cries and unconnected, unintelligible words. Whilst being conducted to the *questura*, he continued along the whole street to cry out and to struggle to get free. Having reached the place, he augmented his cries, spoke incoherently, and became so agitated that, with the assistance of the hospital servants, they secured him in the camisole of restraint, and took him to the asylum. These and the succeeding notes are derived from the recorded, printed examination by Drs. Galli and Tassi, of Placenza, entitled: "*In the case of a lypemaniac charged with pocket-picking and outrage against public force, Placenza, 1879;*" also from the copy of definitive examination made subsequently by the direction of the asylum of Voghera, which has been politely transmitted to me by that body.

In the asylum of Placenza, he appeared to suffer under so strong an excitement that it was necessary to have recourse to quiescing means. He spoke constantly and very loudly; from time to time, he emitted strong cries and called for aid to have a snake taken away, which he said was in his head. Incoherent ideas giddily followed each other; he did not reply to questions; he screamed, wept, tossed about on the bed, called his children, prayed

that they might be saved ; whilst he cried out their mother had been killed, and in saying this his countenance expressed terror.

In this state he continued the whole of the 12th and part of the 13th of August. Injections of the sulph. of atropia were practised, and tepid baths prolonged, with cold irrigation of the head. On the 13th, he began to be more calm, and to appear to be regaining consciousness. On the 14th, his agitation had totally disappeared, he answered questions well. He said he did not know how or why he found himself in that unknown place, spoke affectionately of his children, but with rancor of their mother, who had betrayed him ; he gave a sufficient account of his relatives.

On the 17th, a fresh access of delirium with agitation appeared, perfectly similar to the first, and lasted a little over two days. The objective examination instituted during this attack gave, among others, the following results: *analgesia* complete in the lower limbs, under mechanical stimulus, ascertained by introducing a pin to its full depth in the anterior tibial region, and in the anterior of the thigh, during which he gave no sign of pain; *analgesia electrica complete*, whilst the muscles, under a very high degree of the electric current, acted with promptitude and energy, so as almost to produce anterior luxation of the foot, he showed no sign of feeling pain; *complete immobility of the pupils*, under dolorific stimulus; *complete insomnia*, frequent attempts to beat his head strongly against the walls and the bath vessel.

After the last access, he remained tranquil, but rather melancholic and desirous of isolation; he said he heard voices that were directed to his children, and that they had been condemned,

On the 2d of September, he became again agitated, but without falling into fury; he, however, manifested tumult in his ideas, and complained that he was much molested by a snake in his brain, which threatened to deprive him of consciousness. In this period also, as in

the interval between the accesses, the insomnia was obstinate (lasting over twenty days), resisting narcotics.

These were the phenomena presented in the asylum of Placenza. In the mean time, the tribunal called for an examination of the state of mind of R., and as to his responsibility. Many circumstances weighed against him, as the informations taken, which designated him a notorious and hardened pickpocket; his being found in possession of two pocketbooks and a very sharp knife, common to pickpockets; there having been recognized certain small letters in fine writing contained in one of the pocketbooks found on him, belonging to a certain Mr. F., who was robbed on the same day on which R. was arrested; his deportment before the magistrate, who interrogated him (18th of August), when, after having answered ordinally to general questions, as soon as he was questioned as to the circumstances of his arrest, and the theft with which he was charged, he launched into vituperations and acts of insanity, such as to render vain every enquiry; all these circumstances caused doubts to arise, to resolve which an accurate expert study was necessary.

The examination was, on the 20th of August, 1878, entrusted to Drs. C. Borsini and E. Tassi, physicians of the hospital of Placenza; but their judgment was discordant, as the former concluded, chiefly on the grounds of his psychologic examination that he was a "*cunning simulator of insanity*," the latter, on the contrary, basing his opinion on the somatic phenomena shown as recorded by us, held him to be "*truly diseased in mind, and irresponsible*." The tribunal added to the two experts a third, Dr. Galli, who fully supported the opinion of Tassi, and then the report of the first named and that of the other two were presented to the judge, and the latter was printed, as we now have it before us.

The Tribunal of Placenza then, on 20th of September following, ordered R. C. to be transferred to the asylum of Voghera, for further study of his mental faculties,

assigning the decision to the Directory, Prof. Raggi, and Dr. Bergonzoli, the Vice Director. Here is the result of their examination:

When R. C. was brought to the asylum of Voghera he presented the symptoms of *furious mental exaltation*, with corresponding disorder of ideas and dangerous tendencies; he seemed to be dominated by delirium of persecutions with hallucinations; he cursed his adulterous wife as the cause of all his troubles; he wept over the lot of his children; called to his own succor the physicians of the asylums, into which he had been many times received, entreating them to take out of his skull a snake which was tormenting him. These words were accompanied by desperate cries, without ever any reply to what was said to him. He tried to batter his head against the wall and surrounding objects, and, though fastened in the camisole, he exerted all his force to elevate himself and to fall down, battering his head on the pillow, and tossing from right to left. This state lasted two days, in which he refused all food; his insomnia was constant, and he shouted night and day. On the third day he became more tranquil, spoke more ordinately, gave a minute account of his past life, but on merely being spoken to of his wife, he began to be agitated, accusing her as the prime cause of all his troubles, and saying it was because of her he had attempted suicide. All this he spoke with great rapidity, so as to cut off his words, and frequently to render unintelligible what he said. On the fourth day he requested to be liberated from the camisole; he complained of often having heard infant voices, which told him he was "betrayed by his wife, who, to work his ruin, had come to the asylum with her gallant;" he requested that his skull should be trepanned, to let out the snake which was tormenting him; and he also asked to be allowed to work. In talking, he stopped from time to time, saying he heard the voice of his wife who was threatening him. He recounted that when the trouble in the head came on him (the precursor of an access), he felt at first a sense

of weight and a confusion of mind, which, becoming constantly worse, changed into intense pain. All this was the work of the snake which was in his head, and from it assuredly came the voices which distressed him. He could not give any explanation as to the crime with which he was charged; he said he remembered nothing at all about it.

Up to the 28th of September, although calm, he continued to allude to the voices of persecution and of the snake; then every manifestation of delirium ceased, and there remained only a strong pre-occupation of his state and a great tendency to verbosity, when he gave the history of the past and entreated to be set at liberty.

The objective examination showed, besides the lesion of the cranium which we shall describe, a *hemianæsthesia* under the electric current, in the right limbs and the face, *intermittent pulse* (every 15-16 beats), temperature rather low (36.2-36.3 centig), specific gravity of urine greater than normal. On the history of the case, and the psychical and somatic phenomena presented, the experts, after due consideration, concluded on the indubitable existence of a *lypèmania agitata of paroxysmal form*, admitting likewise *an habitual disorder of mind and the absolute juridical irresponsibility for the offence committed*.

It was declared that the prosecution should not proceed, and R. C. was set at liberty. But, on the 10th of February of the current year, he was brought again to the asylum of Reggio, presenting, as I have related in the beginning of this report, the very same phenomena as before, and under the same charge of "*theft with cunning*." He informed us that, in December preceding, he had at home a renewal of his mental disorder, for which he was treated with chloral hydrate.

This last theft charged against him constitutes the 25th imputation, and this last commitment to an asylum, the 8th time that he has been so disposed of, as will appear from the following chronological table of his crimes and his asylum entrances, which we have derived



from the records of his case preserved in this asylum, and from the other data enumerated by us :

CHARGES OF CRIME.

Progressive No.	Date of Sentence or Crime	Crime Charged	Authority Sentencing	Sentence	Dischar'd
1	1858, Sept. 4th	Disloyalty & violence	Urban police of Milan	Detained 1 month	
2	1859, May 6th	Carrying prohibited arms	Milan Tribun'l	Det. 3 mos	
3	1859, Aug. 13	Cheating	Mil. Uub. pol.	7 months	
4	1862, Sept. 12	Hold'g stol'n articles	Milan Trib.	Pris'n 2 yrs	
5	1864, Aug. 2	Violence to police	Milan Trib.	" 4 days	
6	1864, Dec. 19	Theft & vio. to police	Milan Trib.	" 2 mos.	Released
7	1867, June 21	Theft	Milan Trib.	" 6 mos.	
8	1868, April 16	Quaif theft	Milan Trib.	"	
9	{ 1868, Nov. 17 1869, Jan. 20	Dextrous theft	{ Monza Milan App'l	Prison 1 yr	
10	1871, Feb. 8	Dextrous theft	Varese Trib.	" 6 mos.	
11	1872, May 6 and July 5	Expert theft	{ Sondrio and Milan Appeal	" 3 yrs.	
12	1875, April 6	Offense against public order and viol'e to police	Como Mandam	Fine £3, & Pris 10 ds.	
13	{ 1875, July 22 1875, Oct. 1	Expert theft	Como Tribun'l	Pris. 3 mos	Released
14	1875, Oct. 7	?	Milan Appeal		
15	{ 1876, Feb. 2 1876, Feb. 22	Dent. of prohib. arms	Milan Trib.	Pris. 3 mos	
16	{ 1876, July 1877, Feb. 11	Dent. of prohib. arms	Milan Appeal	Pris. 3 mos	
17	1877, July	Resistance to police	Bologna		Released
18	1877, Dec.	Expert theft	Reggio Trib.		Released
19	1878, April	?	Bologna Trib.		Released
20	1878, Aug. 11	Expert theft	Bologna Trib.		Released
21	1879, Feb. 10	Expert theft and Resistance to police	Placenza Modena Trib.		Released

CONFINEMENTS IN ASYLUMS.

No	Date of Entrance	Asylum	Form of Mental Disease	Duration of Confinement	Decision of Examiner
1	1873, Nov. 25	Milan	* * * * *	till Aug. 20, '74	Simula'n of ins'y
2	1875, Oct. 20	Bergamo	Mania furiosa	till Nov. 28, '75	Not prosecuted
3	1876, July 9	Bologna	Lypemania agi-tata	till July 28, '76	Irresponsible
4	1877, Feb. 11	Reggio	Mania parox.	till Sep. 22, '77	Irresponsible
5	1877, Dec. 23	Bologna	Lypem'ia agi'ta	till Mar. 2, '78	Irresponsible
6	1878, April 10	Bologna	"	till May 25, '78	Irresponsible
7	{ 1878, Aug 11 " Sept 20	Placenza Voghera	"	{ till Sep., '78 { till Dec., '78	{ Simula'n by 1st { Irrespon. by 2d and by experts
8	1879, Feb. 10	Reggio	"	* * * *	Irresponsible

It is shown by these tables that R. C. was condemned fourteen times, absolved three times, and five times prosecution was abandoned. He was prosecuted eleven times for theft, once for detention of articles stolen, five times for violent resistance to the police, twice for detention

tion of prohibited arms, once for cheating, and other times for contraventions or bodily offences. Summarizing the whole, we find that he passed about eight years in prisons, and in insane asylums almost three years. Over twenty years ago he began his criminal acts, but his first commitment to an asylum was only six years ago—1873. It is to be noted that the series of his asylum confinements commenced rather suddenly after his suicidal attempt in the gaol of Sondrio. In the six asylum confinements preceding the last (the eighth), he was only once judged to be a simulator, and he underwent his penalty; but, in the succeeding instances in which he was under process, and was several times placed under expert examination, he was (with exception of the dissent of one expert at Placenza) deemed to be diseased and irresponsible, and the affection was always diagnosed as of the same, or of a very analogous, form; and, what is more, it was described and characterized by all with the same symptoms, almost as if the various relators had copied the one from the other.

In the presence of all this congeries of facts, certainly not common, the task of the final examiner, although much facilitated by the preceding expert decisions, is still not one of the easiest. There has been so much of delinquency, knavery and madness in the life of the man, as to constrain us to see that a superficial study of the case cannot lead to a solid conclusion, whilst for a profound and complete study, there are not all the requisite data, though those we have collected are not few; it would be necessary to fill up many *lacunæ* of his life, and especially to obtain an exact account of him in the periods passed by him outside of prisons and asylums, and, above all, to have precise and indubitable information as to those accesses of mental disease, complete or incomplete, which he presented in the bosom of his own family, apart from any connection with crime, or with justice. It is not to be denied that, whilst on the one part all the facts stated by able alienists in the

different times he was resident in asylums, are of the highest importance; on the other hand, the fact of the dexterity with which he accomplished his thefts, and of the suddenness of the appearance of mental alteration as soon as he found he was discovered and to be arrested, imposes a certain reserve and prudence in the emission of our judgment.

Notwithstanding all this, in deficiency of those data which might enable us to place our decision on an unassailable basis of certainty, we shall avail of those which we have been able to collect, and, before weighing the value of all the amnestic facts, we shall relate so much as we have ascertained from our objective examination. This, as I have before stated, could not be made by myself in the most important period of the access, nor were there afterwards presented, during his long sojourn in the asylum, any symptoms of relapse. The examination was made in a state of perfect calm; the results were as follows:

OBJECTIVE EXAMINATION.—R. C. is 1.66 m. high (5 ft. 6 in.); musculature, well developed; skin white, few hairs, adipose tissue properly rich; hair of head and beard, chestnut; eyes small and a little crooked, zygomas prominent, nose a little flat, ears standing out.

The craniometric examination gave the following results:

Antero-posterior diameter	-	-	-	-	mm.	.180
Transverse maxim diameter	-	-	-	-	mm.	.158
Antero-posterior curve	-	-	-	-	mm.	.310
Transverse curve	-	-	-	-	mm.	.320
Circumference	-	-	-	-	mm.	.565
Height of forehead	-	-	-	-	mm.	.40
Facial angle	-	-	-	-		74°
Cephalic index	-	-	-	-	mm.	.87
Sum of curves	-	-	-	-		1.195
Bizigomatic distance	-	-	-	-	mm.	.115

From the above measures it appears that the cranium is *ultra brachicephalic*, sufficiently voluminous, but the

facial angle is low, and, in truth, the forehead is quite retreating; besides this, the cranium is asymmetrical, being more developed on the right. The left presents, in the parietal region, at four centimeters from the saggital suture, and five from the bregma, a semilunar cicatrix in the hairy scalp, which presents, in its center, a depression of the bone, and there is the residuum of a fracture reaching into the parietal region, produced in 1872, when he tried to hang himself in the gaol of Sondrio.

The examination of the psychical functions showed: Memory good for things in his life long past; absolute forgetting of all that occurred in his various accesses. This failure in memory usually commenced some short time before his committing of a crime, with which in almost every access he was charged, and lasted till two, three or more days after entering the asylum. He said, that of all that which he lamented in the access, he preserved no recollection, as the snake, the voices of his children, etc., etc. Ideation is sufficiently prompt and rapid; he shows himself much pre-occupied as to his future. He is extremely anxious to have his liberty; he always tries to bring into view whatever goes to prove the morbid nature of his acts, and to exclude the criminal character of his recent, as well as of his old, offences, of which he has exact memory, and many of them he does not deny, but tries to justify them, saying that his condemnations have been rather unjust. He always declares himself to be the most unfortunate of men, from the strange disease under which he suffers, and the great readiness with which he becomes accused, even of crimes which he has not committed; he promises to abandon forever the wandering life of a peddler, in order to be less exposed to falling into the hands of justice when he is seized with his attacks. In these recriminations, as in his proposals, he warms in speaking, and then his verbosity so increases, not always coherent, as to render it difficult to understand what he says. The *sentiments* which are

most conspicuous in him are his affection for his children, and aversion towards his wife—sentiments which, as we have seen, take strong proportions in his accesses. There is nothing predominant in his *instincts*. He does not present, in examination, either illusions or hallucinations. In the asylum, he occupies himself continually in the work of the apartments, and is docile, obedient, loving of order and quiet, and is a model of regularity.

The examination of the *sensorial functions* gave the following results: The tactile sensibility appears much diminished on the right side. On examination with the compass of Weber, the two points are felt distinct very much sooner on the left than on the right, as well on the back of the hand as on the palm or face, on the points of the index, and on the forehead, the thorax, and the back. The dolorific sensibility, under mechanical stimulus (with the point of a pin), is much less on the right; punctures of regions on the left produced general reflex movements, or localized muscular contractions, but on the right no reaction, or very little. Punctures on the right of the forehead and the back of the right hand produced no pupillar dilatation, or but very slight, whilst it became very evident when corresponding parts on the left were punctured. The *electric sensibility* appeared much diminished on the right. With the instrument of Rumkorff, with Duboy Raymond slit, operated by a pile of Grenat, the current at 6 was felt on the left but not on the right, where it was not perceived till 5.5. At 5.5 on the left (?) forearm, muscular contractions were developed, whilst on the right they were not obtained before 5. The highest degree of current could hardly be tolerated by the left hand touching the reofore, but were quite tolerable on the right. On the frontal region, on the left, the current at 4 was intolerable, but tolerable on the right. On the left thigh it was perceived at 3.5, and intolerable at 2, but on the right not before 2.5, and the full current was still tolerable. On the left calf it was perceived at 3

and intolerable at 1.5, but on the right it was not felt before 2, and the full current was tolerable. In the left abdominal region it was intolerable at 2.5, but very tolerable on the right. We therefore have *tactile hemi-anæsthesia*, and *mechanical and electric hemi-analgesia* generalized on the right.

We have next, in the median line of the forehead, a small area of the size of a cent, the right half of which is much more anæsthetic than the left half.

The examination of the *visual sensibility* showed a very distinct degree of ambliopia of the right eye, which was observed in the visual acuity with regard to distance, in both reading and writing.

The shortening of the visual range was very conspicuous in the right eye, as may be seen from the following figures :

	CLEAR SIGHT.		CONFUSED SIGHT	
	RIGHT.	LEFT.	RIGHT.	LEFT.
Extent—Horizontal -	183	160	370	760
Extent—Vertical -	105	340	340	620

The *acoustic sensibility*, also, is less on the right, in which, at 18 centim. distance from the ear, the ticking of a watch was not heard, but on the left was audible at 50.

The right *pupil* is more dilated than the left, and slower in changes.

The *ophthalmoscopic* examination gave on the right: The pupil oval in form, with a slight central excavation, and the internal half of a white mother-of-pearl clearness; the internal margin confused, with a patch of incipient choroid atrophy; in the ocular fundus were numerous segmentations, especially towards the equator. In the left eye the pupil has the same form, but it does not present similar alterations.

The motility of the functions of vegetative life showed nothing abnormal.

CONSIDERATIONS.—From the assemblage of facts, both psychical and somatic, which we have been studying, it appears that R. has been affected with

several accesses of *lypemania agitata*, or delirium of persecution, with *agitation*, such as to reach the degree of *furor*. These accesses have all been similar in duration, intensity, and the phenomena presented, both preceding and accompanying them. Each access was preceded by some criminal attempt (ordinarily cunning theft). As soon as arrested he became agitated and speedily showed a furious delirium; this usually lasted two days, accompanied by sitophobia, insomnia, continual cries, hallucinations, sensations of a snake in the head, imprecations against his wife, laments for his children, attempts at self-injury, aspects of terror and desperation. After a couple of days, the agitation usually ceased, he took food, sleep returned, and he awoke as from a dream, remembering nothing that had happened, or with a confused residuum, yet retaining some of the sensations that had dominated him in the access; this residuum very speedily disappeared, and he then manifested complete amnesia of whatever had happened, commencing with the criminal attempt, which he denied having committed, or which he admitted only because persons worthy of credence asserted it. On account of these accesses he had been several times pronounced irresponsible for his offences.

Are we, on the present occasion, dealing with one of such accesses?

As regards the nature of the access, although we did not witness it, yet, from the report of the physicians and all who observed him, we should infer that it was perfectly like the others. It should certainly be wished that we might meet with him in some other access, with the object of studying him with all the means of objective search while in that state, in order to be able to acquire a precise notion of the nature of such accesses. Notwithstanding this, we repeat, the perfect similitude of the phenomenal syndrome constrains us to hold that we are concerned with an access quite similar to the others.

As relates to his responsibility for the attempt at theft which he had at this time committed, it may be permitted

to us first of all, if it is not departing from our purpose, to observe that examination of the processual articles casts some doubt on the reality of the crime itself. From these it does not clearly appear that the pocketbook, of which M. said he was at that instant robbed, was found on the person of R. Notwithstanding this, ought he to be held equally chargeable with the crime? Besides, was the statement made by the guards, as found in the processual articles, as to a similar crime committed in Gonzaga, where he had also wounded the head of a carbinier who tried to arrest him, confirmed, or was it unfounded? These are naturally circumstances on which it would be needful to be instructed before pronouncing judgment.

We may, at all events, assert that, if he also this time committed theft a little before the outburst of an access, it is just to admit in him that irresponsibility which, in preceding instances, quite analogous, was ascribed to him. In the habitual state, however, of his mind, as we found it after the access, we could not recognize any permanent morbid condition. Neither delirium nor disorder, nor debility of mind, was presented to us. But an important fact came to light, to enlighten us, in relation to the lesion of the central nervous system, and specially of the brain; it was the presence of *right hemi-anæsthesia and hemi-analgesia*, conjoined with *ambliopia* and *semi-cophosis* on the same side. The patho-genesis of these morbid conditions, which revealed an alteration in the nervous centers of the respective senses, was explained to us by the lesion mentioned by us in the right side of the cranium, where, in the parietal region, an osseous depression was observed, resulting from an old fracture, the fragments of which must have pressed on the cortical substance of the parietal lobe corresponding to the lesion, and, hence, must have altered its function. It is a fact that *Ferrier* and our *Luciani* and *Tamburini* locate, in this part, the cortical centers of vision, and, in the proximate regions, those of hearing and other senses.



To this arrangement, the genesis of the morbid phenomena of altered innervation is to be attributed.

Let us now ask, had the accesses to which R. was subject any relation to the lesion of the cranium and the brain herein mentioned?

It is beyond doubt that the periods of mental alteration commenced in him a little after the occurrence of the fracture described. He was then brought from Sondrio to Milan, where he underwent observation by alienists; he was thence transferred to the asylum of Senavra, where he staid nine months.

It is true that he left this institution with the repute of a *simulator*, but the marvel that not less than nine months were spent in the ascertainment of his simulation, cannot be lost sight of! Afterwards, he was several times brought to asylums where his disease was really recognized, and always in the same form.

Now these accesses, by their brevity, their sudden starting, the violence of their accompanying phenomena, the nature always identical of them, the terror of the hallucinations and delirium, and the complete amnesia which followed, sometimes anteceded by a confused remembrance, which afterwards vanished, remind us very much of those classic accesses of *epilepsia larvata*, that is to say, of those which may or may not supervene in individuals notoriously epileptic; they present a syndrome, which, in the mental sphere, assimilates much to that which, in the motor sphere, and in the intellectual sphere, too, is observed under an epileptic access, and in those in whom they are seen, they appear as true epileptic seizures, from time to time presenting, as if in decided substitution of the real ones, the violence and that convulsion which, in true epileptic accesses, invade the centers of movement, accompanied by loss of consciousness, which on the contrary, in accesses of epileptic larvata, invade the centres of ideation, and this derangement is succeeded either by loss of memory of accomplished acts, or by a recollection of them more or less confused and fleeting.

Now, in like manner as lesions of the cranium, analogous to those presented by R., when they are found in correspondence with the cortical centers of movements, produce decided accesses of true epilepsy, which may continue for a long time, or even throughout life—and we possess many typical cases—so we are authorized to admit that when the lesion invades other centers, which are not motor, convulsive phenomena may be developed in the sphere of these other centers, and this sphere is exactly that of the sensations; and thus are produced the hallucinations which are to be considered (v. Tamburini) as an epilepsy of the *cortical sensory centers*, extending itself from these to the centers of ideation, which are so intimately colligated with the mechanism in which (by means of sensations and images) ideas are produced; and hence the *delirium with hallucinations*, which characterizes the access of *epilepsia larvata*.

From no fact known does it appear that R. is epileptic in the true sense of the word; but this does not necessitate the exclusion of diagnosis of *epilepsia larvata*, the genesis of which is rendered sufficiently easy of comprehension in the manner indicated by us.

From the accesses, therefore, presented by him, and the lesion of the cranium, with which permanent alteration of sensibility was coupled, a pathogenetic bond of union is met with, which renders a sufficient explanation.

But does it thus remain completely excluded that R. was a simulator? The whole series of crimes committed by him, before the time in which he entered an asylum, the rapid manner in which his accesses constantly appeared on his arrest, his eagerness to show, in high relief, the morbid nature of his acts: Do not all these authorize some doubt as to the absolute morbidity of all the phenomena presented?

Here we must again deplore the fact that we were unable to study him in one of his accesses, so as to be able to undertake all the searchings which might serve to exclude, in an absolute way, the idea that we had in

hand a case of simulation. But others had practised these enquiries before us. The fact of complete *analgesia*, observed by Tassi in an access, that of *sitophobia*, and *insomnia*, obstinate and very prolonged, shown in nearly all the accesses, the practical scrutinies by able observers, as *Roncati*, *Raggi*, and *Trabbi*, who never found in R. C., in his accesses, those exaggerations of symptoms, and those more or less evident extravagances, which are characteristic of simulators, and the absence of which were held as excluding any idea whatever of simulations, might, even in the absence of our own personal observations, sufficiently authorize exclusion of simulation. Furthermore, the very objective phenomena of undoubted, permanent and grave lesions in the sphere of the great nervous centers, which we met with in R. C., proved to us that we had under consideration a really diseased person, and, as we have seen, they suffice perfectly to explain the pathogenesis of the accesses.

Not thus, however, do we believe ourselves authorized to put into doubt, as some other experts have done, who have preceded us, the responsibility for all the criminal acts of twenty years past committed by him; yet we accept, as sufficiently probable, the explanation given by the experts of Voghera, as to the supervention of the access occurring instantly after he found himself caught in the act. Here, then, is presented the very important question: Was the criminal attempt a first morbid symptom (*kleptomania*) of the access, or was the access a consequence of the emotion and rage felt by him from seeing himself caught in the act? In order to give a safe judgment in this relation, it would be necessary to ascertain with what symptoms the accesses manifested themselves at the outset in those which it appears he suffered, and was treated for while at home, in his own family, without having had any relation with legal proceedings or with asylum residence. It would also be necessary to learn whether, in late years, he had committed any thefts, undetected in the act. In defect of

these data, and not desiring to attribute everything to morbid conditions, also reflecting on the criminal habits of his past years, on the facility with which strong emotions produce true epileptic seizures, and the fact that the accesses presented by him during his residence in asylums never came on with kleptomaniacal phenomena, we are inclined to accept the explanation, that the emotion—the enrage—ment—with which he saw himself surprised in the flagrant crime, determined the outburst of the access. The strong impression, in such a moment, felt by the nervous centers would determine in them a violent explosion, which, extending itself into the sensorial and ideational centers, would pass over into hallucinations and delirium.

Under all considerations from the nature of the disease with which he is affected and its influence on the actions which immediately precede the accesses, we are unable to determine with certainty whether he ought to be regarded as *unchargeable with* actions committed by him.

What will be the future of this man? Dismissed from the asylum, will he commit his twenty-second crime, and return for the ninth time to an asylum to undergo fresh examination, with fresh perils to society, and fresh disbursement of the public money? Will it not, at last, be time to take such precautions as to hinder the repetition of acts which follow each other with such frequency, and in so short a space of time, in such close resemblance? With the fatal disposition presented by him, is he a man to be kept all his life in a common insane asylum, or is he not one of those for whom a criminal asylum would be most fit; or might it suffice that he be consigned to the care of his family, with the supervision of the police? Considering that appropriate asylums for the class of the criminal insane are still wanting in Italy, and reflecting that, on the other hand, the deportment of R. in the asylum was so regular that he was never censured, and on the facility with which he might be watched over, when, having absolutely given up his

wandering course of life, should he settle permanently in the county—and on the anguish he suffers in asylum seclusion, far from his children, we should request, unless when the following arrangements do not succeed, that in the meantime he be dismissed from the asylum; our suggestions are as follows:—

A. That he be under the guaranteed care of his family, who shall assume custody of him.

B. That he be obliged to settle permanently somewhere—as, at Bologna, where are his friends who are very anxious about him.

C. That he remain under the surveillance of the police, to whom his condition and the attacks to which he is subject, together with the criminal acts which are wont to precede them should be made known.

D. That he be under medical observance for such treatment and examination as may become necessary.

Summarizing, we conclude:—

\* 1st. R. C. is affected with *lypemania agitata*, very probably of the nature of *epilepsia larvata*, which occurs in accessual form.

2d. He is not *imputable* for the criminal acts committed before the access.

3d. It is necessary that, at the least, it be permanently provided for his custody in his family, and for surveillance by the police.

R. C. left this asylum on the 11th of June, 1879. Shortly before his discharge, just after he had learned of the decision of the tribunal not to proceed with his prosecution, he escaped from the asylum by opening a window and scaling the court wall, but, in escaping, he fell and suffered a strong contusion on one of his feet, and was, therefore, captured and brought back. On his final departure, by assent of the judicial authorities, the conditions suggested by us were executed, and his family became guarantee for his custody, whilst the questures of Reggio and Bologna were advised to exercise surveillance over him.

It might be said that from these precautions new relapses into crime, and new seclusions in asylums would be avoided, but it was not so. On the 3d of December, 1879, only six months after his conditioned departure from our asylum, R. C. was taken back to the asylum of Bologna, from which he was liberated on the 18th of March, 1880, and he once more re-entered on the 28th of September following, to depart again on the 2d of November. On these two occasions, he presented again the phenomena of *lypemia agitata accessualis*; he was admitted under the order of the questure, and with imputation of new thefts and pocket pickings.

The last of these accesses has, however, according to the report of the distinguished *Professor Roncati*, offered many indications of simulation.

In face of this assemblage of facts—crimes which with such frequency followed each other, and which had already placed him under legal process twenty-three times—accesses of mental aberration recognized as undoubtedly true, and accesses very probably simulated, which had ten times opened the doors of asylums to him—phenomena permanent and objective, of grave alterations in the nervous centers—twenty-two years of criminal life in forty-three of existence, of which about twelve were passed in places of punishment, and gaols and asylums—examination after examination by experts, at great public expense, followed by free departures from asylums, with perils to social security and order, against which the law as yet has, in such cases, made no provision—the absolute inutility of surveillance exercised over him—all this goes to show that this is one of those cases in which seclusion in a criminal asylum has become an absolute necessity.

Without returning now to the discussion as to whether all these accesses of mental disease which ordinarily immediately followed the crime, were real, or were in in part, or even in totality simulated, that which, in this case results as absolutely established, is, that we

have to do with an individual who it utterly incorrigible by reason of criminal tendencies, into which he has so many times relapsed, and that he presents permanent and incurable lesions in the sphere of the cerebral centers.

That, even had he simulated all the accesses which have presented from 1873 to this time, we should not, therefore, be the less authorized to admit the incorrigibility in criminal tendencies, which have resisted all the precautions for their avoidance taken by his family and the authorities; and that condemning him to pass so great a part of his life in prisons and asylums has been of so little profit, ought to hold us to an organic condition, which we see evident in the cerebral lesions and the related functional phenomena, which condition, *per se*, disposes him, as we have demonstrated, to accesses of delirium.

We have then, on every hand, the conditions rendering it necessary that he should be permanently shut up in an establishment where the severe exigencies of social security, directed by the iron discipline of penal custody, may be carried out concurrently with due medical attention, for the organic conditions which render him dangerous are immutable.

But, if this be one of the more conspicuous cases, how many others are there which equally demand that there should at last be established, under legislative sanction, asylums for the criminal insane, so much invoked, always promised, but ever as a mirage disappearing, when the illusory expectation of them beams most brilliantly.

[NOTE BY TRANSLATOR.—Whether the reader of the preceding case may concur in the decision of the eminent Italian expert, to whom we are indebted for its clear and ample description, or may hesitate to recognize in R. C. an innocent and irresponsible victim of criminal necessity, we are convinced that every patient and candid student of mental disease will feel grateful to *Professor Tamburini*

for the valuable instruction presented in his frank and copious details. It is our belief that the psychologic features of the case of R. C. regarded apart from the facts ascertained in the objective examination, would be held by the majority of American alienists as indicative of simulation rather than of genuine insanity. For this very reason we are constrained to commend the article to the serious consideration of the readers of the ALIENIST. We have a very abiding remembrance of a case in which incontestable proof of a severe brain leison was offered as corroborative evidence of insanity, but was utterly ignored by the judge as a mitigating fact, and was hooted at by the press as an instance of the silly presumption of the medical experts who adduced it in support of their opinion, and the prisoner was convicted and hanged accordingly. The writer possesses the portion of the skull in which the fracture was situated, and every time he looks at it, he is reminded of the fact that judicial murder is no myth.]

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## Art. V.—Observations on the Origin, Character and Treatment of Oinomania.

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THE terms "dipsomania" and "oinomania" have become, by use, synonymous. Oinomania, which comes from *Oinos* (*wine*) and *Mania* (*madness*), is a preferable term to dipsomania, which has for its base *Νηφα*—simply *thirst*.

The old authorities, such as Benjamin Rush and others, employed the word oinomania to designate *wine madness*, and it appears with good reason.

We do not purpose to discuss oinomania in its general and collective signification. Everybody knows the character and conduct of the habitual drunkard. We propose rather to consider oinomania in its integral constituents. We wish to speak of its several and distinct factors, with a view to discovering, possibly, some way to the elimination or modification of certain essential constituents; and thence confining the area, and restraining the violence of its manifestations.

We have, in a former paper (*ALIENIST AND NEUROLOGIST*, July, 1881), taken some pains to show the relationship of the alcoholic neurosis with the great neurotic family of unstable nerve conditions. We will, therefore, content ourselves, mainly, with a discussion of the characteristics of oinomania, as relates to its component parts—after having offered some additional examples and proofs with regard to the close relationship of the oinomaniacal diathesis, with recognized unstable conditions of the nerve centers.

When treating of defective equilibrium in the central nerve forces, we are encroaching on the "border land" of insanity; and although our remarks are not strictly

applicable to the actually insane, it is obvious that we must encounter mental conditions which will be better understood, by sometimes referring to insane examples than by any other means.

In considering the subject of oinomania, not as a unit, but as composed of several distinct parts, our meaning may be illustrated by the following, taken from Dr. Bucknill:

"Lord Westbury said, in a speech in the House of Lords in the year 1862, while complaining of the methods of medical witnesses in cases of alleged insanity: 'An evil habit has grown into a precedent with judges and juries of assuming that insanity was a physical disease, and not a subject of moral inquiry.'"

Dr. Bucknill (*Insanity in Its Legal Relations*), says in reference to this point:

"It is not that medical men have imagined external things to be the indices of things unseen, but that they certainly are the indices of things unseen, and that all men, whether they be medical or legal, ignorant or expert, must in questions of insanity accept them as such, unless it can be shown that a state of mind can, itself, be seen."

In a manner precisely analogous, oinomania is a sensible index of certain things unseen, one of which is a constitutional nervous condition capable of being super-imposed by any one of a number of accidents; which being once established drives the mind, impressed by it, into habits of intoxication.

It is not any part of our object to follow too closely the social bearings of intemperance. Our business is with, not the effects and outgrowths of the alcoholic diathesis, but the cause of that diathesis. We do not discuss intemperance, but we seek to find the cause—the moving principles of intemperance. We do not look upon drunkenness as a disease, so much as we view it as a symptom of a constitutional imperfection or disease.

Preliminary to a nearer view of the several specific elements which are essential to the full development of true oinomania, there will be no impropriety in adding a few facts to those contained in our former paper, bearing on the relationship of the alcoholic neurosis, with other

true neurotic conditions. We have spoken particularly of *amnesia* as an outgrowth of the alcoholic neurosis. This symptom—lost or impaired consciousness—while not unfrequently an attendant upon alcoholic impression, is also common as a symptom of a neurotic interchange with other disturbed nervous states, not related to the alcoholic diathesis.

For instance, we know of a clergyman subject to epilepsy, who projected and preached a sermon on a certain text while in a condition of normal consciousness; but upon filing away his manuscript, he encountered the manuscript of a sermon preached by him two weeks previously on the same subject. He had no recollection respecting its composition or delivery. It was prepared and preached while his mind was in a morbid neurotic condition, taking the place of the epileptic seizure.

Another gentleman, an eminent lawyer, had a season of amnesia in lieu of a threatened paralytic attack. During the continuance of the state of amnesia, he wrote out a long and able legal document, covering several grounds in defense of a criminal. He only knew afterwards that these and other events had occurred, by the discovery of the written documents pertaining to them.

Bearing upon this subject, Maudsley says that,

“Certain forms of nervous disease in the parents, such as epilepsy, paralysis and neuralgia, strong hysteria, dipsomania, spasmodic asthma, hypochondriasis, and that outcome of a neurotic and feeble nervous system, suicide, may predispose to mental derangement in the offspring, as, conversely, insanity in the parent, may predispose to other forms of nervous disease in the offspring.”—(Path. of Mind, p. 107.)

Again, the same author says:

“The mingling and transformation of neuroses which is observed sometimes in the individual, is more plainly manifest when the history of the course of nerve disease is traced through generations \* \* \* when it is seen how close is the fundamental relations of certain nervous diseases, and how artificial the distinctions between them sometimes appear.”

Dr. C. H. Hughes says:

“I have often seen one member of a family given to periodic drink, another to attacks of hysteria, or epilepsy, or melancholia, or more active mania.”

We will take it for granted that no objection will be advanced against the doctrine that oinomania is an exhibition in activity of a true neurosis, similar in its laws of being with other recognized neuroses, and interchangeable with them both as an inheritance, and as transmitting, in in some forms, neurotic legacies. This being admitted, the question as to what is the proper course to pursue with the oinomaniac will be a good deal simplified. We will be better prepared to consider more specifically the nature and treatment of the constitutional greed for alcoholic stimulants.

While it is possible that the diathesis provocative of the appetite for alcohol may be the offspring of long continued indulgence in an intemperate course, this is by no means the only or most likely, the usual source of its production. Any cause adequate to induce a condition of profound disturbance in the relations of the nerve centers; any thing which, in the language of J. Russell Reynolds (*Value of the Legal Tests of Insanity*, p. 18), "Operates with extreme force from without, or by reason of some undue susceptibility within, disturbs the growth of the brain, deranges the relations of its parts, upsets the harmony of its functions, results in an unsound mind." That is, it results in the establishment of a neurotic diathesis, with nerve centers unstable and out of equipoise, one form of which neurotic state is the acoholic or oinomaniacal predisposition.

It is not necessary or proper to detail all the causes of such a result or culmination. But a few obvious and familiar agencies in common operation, which, among others, produce the oinomaniacal predisposition may be noted.

Any profound shock or injury, either physical or mental may found a neurotic temperament. Hence, severe bodily injuries, as wounds received in battle, may become the cause of an oinomaniacal predisposition. We have known a number of drunkards thus produced. There is no doubt but this will prove a rich field for observation and statistics.

The habit of steadily using the nerves of vision in prolonged study while in school, may sometimes injure the stability of the nerve centers to no small extent. The practice of corporal punishment in school at the hands of a stranger may tend to so shock the nervous system of a feeble and timid child, as to sensibly predispose to the founding of a permanent neurotic diathesis. The entire loss of a limb, independently of the shock entailed upon the nervous system, may be followed by atrophy of certain parts of the brain, so as to interfere with the consensual and attentive correspondence of all parts of that organ in its functional operations. SEPPILLI speaks of "secondary atrophy in the motor zone, consequent upon the amputation or loss of an extremity." But it is not necessary to point out the innumerable accidents and possibilities which, in their totality, must eventuate in the founding of a great multitude of the various neurotic temperaments.

But, after all, by far the greater proportion of the oinomaniacal neuroses is to be found in those who have received it by inheritance out from the epilepsy, the insanity and the manifold forms of neurotic disturbances of the past. That is to say, the constitutional tendency to drink alcoholic liquors is not, as a rule, the immediate result of an indulgence in the practice of intemperance; but it is of necessity derived from the super-imposed outcomes of the vices and misfortunes of a world long since dead and gone. The following illustration comes from a source of undoubted veracity and intelligence:

"A young priest, early dedicated to his calling, having occasion to undergo an arduous journey on foot, during an inclement season of weather, was, with difficulty, induced to partake of a portion of alcoholic liquor, with a view of sustaining his strength and energies. It was his first experience with alcohol. This man could never afterwards suppress his longing for liquor, nor refrain from alcoholic indulgence. He lived and died a drunkard."

The mother of this person was an epileptic.

The case is typical. The strong probabilities are, in view of the sources of oinomania, that few, if any, habitual

drunkards are free from a taint of an hereditary character which colors their lives with somber hue.

Hence, the thoughtless prescription, or the unconsidered tender of the alcoholic cup, should not be blamed as *creating* the dipsomaniacal neurosis, so much as being the occasion of the *development* of the potentiality of that morbid power; it being already latent in the constitution.

The establishment of a habit of drinking is to be attributed rather to the accidental awakening into activity of a slumbering neurosis than to the obstinate persistence in a course of intemperate indulgence. Could we know certainly, where that neurosis is implanted, we could act intelligently upon that admonition which tells us "not to awake a slumbering lion."

The predisposition to drink becoming operative is apt to assume one of two phases: It may be spasmodic, or, as sometimes called, impulsive; or it may be continuous, resting only when excess demands intermission.

Of the impulsive drunkards we will speak first. Here is a form of oinomania which exhibits itself at intervals of longer or shorter duration; these intervals being of different lengths in different persons, and, indeed, in the same person. In this respect, the impulse to drink assumes some of the features of epilepsy—that great representative of all the varied forms of mental unsoundness and imperfection. This disease (epilepsy) has been called by Dr. C. H. Hughes, "protean and chameleon-like." The same authority speaks of the "protean forms of epileptoid display, which incite to cautious thought, and have not, in all their possible manifestations, been yet recorded." As the crisis of epilepsy is sure to come, sooner or later, so the oinomaniacal neurosis will intrude itself in active form at certain periods of time. True, one or another consideration, either affective or rational, may retard the culmination of the neurotic stress; but that determination will at length assert itself, and the victim of dipsomania will bow to the irresistible behest of his neurotic temperament.

It may be asked, if a mind can restrain itself for a time, can it not forbear altogether? It is certainly true that the insane can often, in the pursuit of an insane purpose, refrain from the manifest exhibition of lunacy for a considerable period of time. The phenomenon of a person really crazy, "stifling his disorder" is not uncommon in asylums. And yet to claim that such a fact implies a power to voluntarily control insanity at all times, is, in the face of experience and the sensible morbid degenerations of brain tissue, simply preposterous. Oinomania comes under a similar category. Local and temporary interests may restrain for a time the final outburst of the constitutional predisposition; but they are powerless to prevent it in the end.

Objection has been made to the term *impulse* as applied to mental exhibition. It is true that the term "impulse" presupposes the paramount activity of the *emotional powers* as considered in distinction from the reflective or true reasoning faculties. It is also true, as a rule, that the absence of the reflective operations leaves mental exhibitions somewhat "at large," as it has been termed, and particularly as they are exhibited in certain nervous and hysterical phenomena.

Yet instances and examples have not been wanting wherein it has appeared that the predominancy of the emotions—the susceptibilities—was efficient in inciting the mind to wise and healthy life work.

Dr. Bucknill remarks:

"This term *impulse* is a word which darkens knowledge, and its use seems wrong and misleading."

From an authority which so acutely exposes the fallacy of Lord Westbury in his claim that insanity is an independent state of mind requiring moral appliances, rather than a symptom of an internal pathological condition, this dictum of Dr. Bucknill seems somewhat singular. The doctor's criticism is here applicable to his own language. Alcoholic impulse is not simple and independent. It is multiple, and has for one of its elements the

latent oinomaniacal neurotic diathesis. It is one of the symptoms of a profound constitutional taint, and as such, it is a proper subject of consideration and remark.

It is perfectly well understood by metaphysical writers that the sympathetic powers are not, of necessity, amenable to the authority of the intellectual faculties. That a certain balance of action and reaction between them, yields the best results is acknowledged; but that great preponderance is allowed in the field of sanity to either the emotional or the reflective powers, is well understood and is really proper.

The mere susceptibilities, without the obvious intervention of the reasoning processes, may impress the will and impel to action or conduct. It is, therefore, not essential that we should seek in the intellectual faculties a solution of the characteristics of *impulse*.

Reynolds, in the excellent monograph already cited, says that:

"An unstable condition of the nervous centers allows action upon *impulse*, starting from *sensation*, which a better state of nerve nutrition would have enabled the individual to resist."

The "unstable" condition of the "nerve centers," being provided, some *sensation* in affinity with this unstable condition will tend to arouse a slumbering or latent neurotic force into sensible activity. This "sensation" may be the recollection of some perception received in the past, and presented to the attention by the powers of the imagination. Or, in the case of the drunkard, it may be the sight of the signs and devices of drinking resorts which waylay him in his usual walks and avocations. Such sights with their attendant ideas awaken an impulse, which, without their intervention, might have remained dormant.

Is "impulse" an outcome of reason, or is it not? It has been said respecting disorders of the mind that, "it is to-day impossible to resolve the question whether they have any given location, or are on the contrary a confederate solidarity."



The metaphysical schoolmen have no doubts on the subject. According to them the mind acts as a whole in every particular, small or great.

Prof. Hickok, says: "The mind is a unit through all its varied stages of activity." Prof. Haven, says: "Mental activity, strictly speaking, is one and indivisible." Prof. Bowen and indeed all the metaphysicians hold the same doctrine. With some reservation or understanding respecting the occasioned predominance of the emotional side, or of the reflective side of the mind, there can be little doubt of the accuracy of the above view.

The maternal instinct is not divided or weakened with respect to any child, because the affections are distributed amongst several. When the mother's mind is directed to any one of her offspring, *it is her whole mind* that for the time is so directed. Each child under the circumstances, for the time stands alone, as though it had no companions.

The fact is, in this example, the affective or emotional sensibilities are so strong, that little or no appeal is accorded to reason. The perceptive faculties are not ignored. But the power and strength of the feelings are so great, that they occupy the entire field, and the reasoning faculties remain in a quiescent or consenting position.

The sensibilities, or the emotions may therefore assume control of the will while the reflective powers are in abeyance.

This illustrates the nature and mode of operation of that constitutional bias which *impels* to the use of alcoholic stimulants.

When some sensation or some recollection of past sensations arouses sudden impulse to drink, it is overwhelming, simply because the impulse thus aroused *suffices* to bring the will into activity. There is no call upon the reflective powers, and reasoning does not take place. The emotional nature is predominant, and reason, while not antagonized, is non-committal, inoperative. The neurotic propensity to drink, when thus excited, does not coolly scan the consequences and attendant circumstances; but, in the

form of an emotional *impulse*, it controls the will as relates to alcoholic indulgence, and gives activity and character to conduct.

The calculating, reasoning man is seldom a drunkard. He is capable of weighing the chances and the consequences associated with the alcoholic influence; things denied to the questioning thirst and nervous urgency of the oinomaniac.

We, therefore, in view of these facts, conclude that *impulse*—a factor of oinomania, and itself the offspring of factors—is not the outcome of the operation of the reflective mental faculties.

The neurotic constitution of the drunkard should be distinguished from what is known as moral insanity. There is no quality of such insanity about the dipsomaniac. The idea of moral insanity is the *absence* of the moral nature—of the emotional susceptibilities. "We must all have met," says Dr. Bucknill, "with children who are strangely vicious from an early age—lying, thieving, cruel, violent—the despair of parents and pedagogues." Those humane traits "which make all the world of kin," are wanting, and in their stead the intelligent mind of that class of the insane is devoted to effecting the injury or destruction of others.

Differing from such people, the emotional nature of the drunkard is alive and acute; and it is the pathological relation which his emotional instincts bear with his intellectual powers, that compels him to be a drunkard. It is true that in the infinite phases of mental states which liquor may impose upon the drunkard, his sympathetic nature may become *general*; and not specifically applicable; that he may weep over a record of trouble and distress in some newspaper, which is purely ideal, while his wife and little ones are faring infinitely worse under his very eyes; yet the fact remains that he has sympathies and that he can be moved by pictures of suffering.

In our judgment, the ideas of Reynolds on this subject are correct. "Every person," he remarks, "has at

times felt impelled to do or say something which he had avoided doing or saying by a *moment's reflection*." He also speaks of "those strange *emotions* which often conflict so fiercely with *thought*, in regard to life and motive." (*Legal Tests of Insanity*, p. 17.) The class of emotions here alluded to, is the legitimate production of a constitutional aptitude, insensible to sight or touch, but of decided properties. This trait is as positive and as unerringly operative as those recondite organic forces which determine the shape of the nose, or the cast of the eye, or the "cow-lick" in the hair, which may distinguish the constitutional features of certain families. It would be as sensible to give a dose of pills or apply a plaster, with a view of changing those indelible indices of inherent family kinship, as it would be to endeavor to effect a fundamental change in any other constitutional, neurotic predisposition by analogous appliances.

Not less absurd would moral influences appear in this field of operation. Clearly it would be ridiculous to stand before a person and tell him to "brace up" in antagonism to a pug nose, under the impression that such "bracing up" would change the form of the nose to one more desirable.

But, while no amount of moral, or spiritual, or therapeutical efforts will avail to totally obliterate and destroy an inherited neurotic proclivity, it is still a fact that the exhibition of the outcome of the alcoholic diathesis in the form of actual intemperance, may be sometimes partially or even totally *suppressed*.

There are, of course, differences in the intensity or grade of the alcoholic temperament in different individuals. In some "those mysterious alliances which seem real with a world we cannot see, which fill the mind of the morbid to the exclusion of almost every other object," are indefinite, and not absolutely dominant. "The extreme force from without, or the undue susceptibility within, which upsets the harmony of brain function," may not be superlative. The emotional tendency towards drink may

not be overmastering. In such persons, the reflective faculties, either by the suggestion of other minds, or by the force of their inherent preponderance over the neurotic predisposition, may become so aroused into activity as to overcome the emotional impulse to drink. The "momentary reflection" may become possible and effectual. In such instances the reasoning faculties contemplate the personal degradation of the drunkard; and the shame and humiliation he entails upon the family. And thus the neurotic disorder, struggling for ascendancy is, for the time being at least—not destroyed—but *suppressed*.

This is a fact which is enacted in the life of the impulsive drunkard again and again. Sometimes when the neurotic vice is not too strong, the victory of reason over the susceptibilities is complete. At other times, alas, this victory is incomplete—evanescent. It is in this last class of cases that the tragedy of suicide is often enacted. When in the beginning of his career the oinomaniac emerges from a season of excess, he seems to feel that it will not only be easy for him to refrain, but that it will be impossible to inveigle him again into the haunts of intemperance. But time passes; the pain inseparable from intoxication disappears. The craving for alcoholic stimulants begins to grow, and gnaws at every avenue, physical and mental. The emotional tendency to drink grows stronger and stronger, while the reasoning faculties are less and less questioned; and in the fullness of its own time, the seizure, like unto that of epilepsy, takes place, and the fury and inhumanity of the drunkard has full sway to endanger society and dishonor friends. In some proud minds, a routine of this kind will not be permitted always. Sooner or later the broken oaths, the honest resolves, the strenuous efforts in the interest of honor and manhood—all wrecked—will admonish the oinomaniac that he is powerless and is lost. Unable longer, as this hideous conviction is burned into his soul, to face the world; unable to face the honorable traits of his own nature;—in pure despair he seeks destruction

and everlasting forgetfulness by some terrible catastrophe.

These are the finer minds who, to avoid inevitable reproach and contempt, prefer to die. Unhappily, the possession of the highest powers of imagination and poesy are unavailing in the presence of the neurotic tendency to inebriety. They are wholly inadequate to supply the place of reflection and reason. Powers given in compensation for defects are not of a nature to overcome those defects; and the "Unco Guid," with their calm and equable nerve fiber, stand ever ready to pass final sentence upon such men as Robert Burns, Lord Byron and Edgar Allen Poe.

"What's done they partly may compute,  
*But know not what's resisted.*"

And here we may remark respecting those persons whose preponderating intellectual powers or comparatively feeble neurotic predisposition renders them capable of reforming, and of permanently abstaining from the use of liquor, that the *seeming* state of such is very different from their *real* condition. The reformed inebriate, while walking apparently in ease and comfort in the right way, is never free from temptation. His is a life-long fight up hill. No matter what may be the ruling motive of his abstinence, whether it is honor, or ambition, or religion, the inward conflict goes on still. His neurotic proclivity abides with him always, and claims his watchful and ever-vigilant antagonism throughout life and until death.

How different is the lot of such a man from that of the easy moralist who passes through life unweighted with any superimposed morbid predisposition to drink. To one, the journey of life is easy and delightful. To the other it is, throughout, the journey of Æneas from the Avernian regions. Easy is it to sink into the shadow and gloom of the drunkard's life, but to return therefrom is labor and toil indeed: "*Revocare gradum superasque evadere ad auras, hoc opus, hic labor est.*" The alcoholic diathesis is suppressed, it is not destroyed; it is simply

smothered, it is not extinguished. It lives on and is still transmissible.

Of the steady daily drunkard, little needs to be said; but that little as evincing his intellectual imbecility in the presence of his neurotic besetment, is sad enough. The development of his neurotic tendency into action has of course a beginning. It may be the accidental and unpremeditated indulgence in some alcoholic stimulant on an accidental and unconsidered occasion—as at some wedding, or excursion, or otherwise. The direful consequences being utterly unforeseen.

In this connection, and at the risk of seeming repetition, we will say that oinomania is a condition represented by several distinct factors. The mere neurotic temperament calling for alcohol is not of itself oinomania. This neurosis must meet with its kindred and sympathetic affinity—alcohol, before the unreasoning craving for liquor begins, and the overwhelming mastery of alcohol upon the mind and conduct is established. That conjunction once effected, however, the alcoholic appetite becomes dominant, and the alcoholic mania fully developed. The subsequent intemperate course is kept in activity by the impulse to drink being excited through the intervention of suggestive sensations, either external, or coming from within.

There is at first, no doubt in the mind of the drinker, of his perfect capacity to refrain whenever he chooses to do so. He henceforth day by day continues to drink intending sometime soon to “shut down” and return to a course of abstinence. Although time passes and the time for stopping is not yet come, still the beginner is of the conviction that, upon the exercise of a firm determination, the practice of intoxication will come to an end. But the time for stopping comes not; while the *capacity* for stopping, when a *habit* is superadded to a *neurotic predisposition*, is very sensibly weakened. Thus, the pitiful scene is lengthened out until at last the grand and glorious sense of manliness is sunk and lost in the craven conviction that degradation,

hopeless and endless, is assured. There is no spasmodic attempt at reform as we see in the impulsive drunkard. But surrendering to the overpowering strength of his alcoholic neurosis, the daily drunkard skulks hopeless, and liquor sodden through life.

It is not our business to trace the man, the citizen, the father and the gentleman from his shining and honorable pedestal down to that other and dreadful level of drunken mania and unspeakable degradation. Nor to discuss the difference in culpability of him who, impelled by the fatal neurotic heritage, is enticed to drink to his ruin and the stronger man who, not so unfortunately endowed, entices and leads the weaker to destruction. It is ours rather to discover and depict the cause of this fall, and if possible, point to a remedy.

The question now arises, have we sufficiently identified the nature of the temperament underlying the phenomenon of oinomania to make its character and associations reasonably clear? Does it belong to the class of constitutional traits, known as the neurotic conditions? If so, does our knowledge on this subject aid us in the search for a remedy against the alcoholic diathesis? These questions may be answered affirmatively we think.

But preaching, be it ever so earnest or orthodox, will not alter the calibre of morbidly dilated vessels, remove extravasations—sanguineous or serous—from the brain, nor will it restore degenerated nerve cells. Admonition will not replace nerve centers in a condition of equilibrium and equipoise—centers which have lost their balance by physical destruction or injury to important bodily organs or structures. And all the punishment and duress that can be brought to bear, will not avail one scintilla in restoring an equable, and healthy and quiet mind to any one, physically disordered in brain and nerve fiber.

The factor, therefore, of oinomania which consists in the neurotic diathesis cannot be reached by any spiritual or moral or direct legal means. In truth, hereditary factors must be mainly impressed by hereditary methods.

To accomplish anything in that direction, there must be careful marriages; certain and steady employment; the morbid nerve erethism must be subdued as much as possible by long continued non-use; and in short, every available means calculated to dwarf the obtrusive neurotic predisposition must be sedulously applied. Such a treatment it is obvious, must be prolonged for years, and even for generations.

It is therefore clear that we must seek present relief from the inflictions of oinomania, in the nature of some other factor which enters into its composition.

Another constituent in oinomania is what is termed *impulse*. Our discussion of this term has been somewhat extended; and from that we may assume that impulse has no part in the matter unless the alcoholic neurosis on the one hand, and the alcoholic substance on the other, are within striking distance of each other. If either of these elements is absent, the impulse either cannot arise, or it cannot avail. It is therefore concluded, that if we are powerless to deal with the morbid predisposition to drink, our best hope of accomplishing something in the way of repressing oinomania, would be in removing alcohol from the possibility of conjunction with the depraved mental predisposition calling for it.

This means *isolation* of the morbid mind from that which feeds its disease. The numerous retreats for the inebriate, which are so useful in a multitude of cases, clearly vindicate the doctrine that such isolation is not only useful, but indispensable. But it is obvious that this mode of isolation—restraint to the person rather than the thing—is impracticable as a general rule. There are too many oinomaniacs; the neurotic predisposition to alcoholic indulgence, owns so many and remote paternities that it includes an unmanageable multitude. The only feasible remedy is clearly the removal of alcohol itself, from the reach of the drunkard.

It is all very fine to insist upon liberty, the liberty of choice, and the native right of everyone to enjoy it. But



this should be confined to a rational liberty ; not a liberty of diseased and unstable methods exercised with regard to normal and well established conditions. Very recently certain damagogues in Connecticut made great ado because of a law which forbade persons having a congenital defect in vision, which incapacitated them from distinguishing colors—from engaging in the service of railroads, where the signs of danger depended upon a capacity to rightly distinguish colors. Here the liberty of deficiency and disease was terribly outraged, while the lives and safety of thousands were imperiled, if the “outrage” was *not* rigidly enforced. In a manner analogous, the withdrawing of alcohol from the drunkard, is merely depriving him of the liberty of choice, in relation to a subject concerning which, he is by reason of disease, incapable of reasoning. There is no abridgment of personal liberty here, which does not unbind and set free potentially, immense numbers who otherwise would be subjected to injury and abuse and danger.

Such legislation as will make it difficult for the drunkard to obtain liquor, appears to be the only practicable means of restraining the exhibition of oinomania, within narrower limits than it at present occupies. We have nothing to say respecting the feasibility of accomplishing what is, without doubt, the only means of restraining intemperance and preventing its accumulating woes. It is simply a self-evident proposition, that the more difficulties which can be brought to confront men in obtaining liquor, the less liquor will be drunk.

A load of unspeakable apprehensions would be removed from the heart of the wife or parent, could it be known that some certain one would not be *compelled* to pass by a dram shop in the morning or evening, as he goes to work or returns home. The inebriate himself in his better moments, would rejoice if he could know that the shop of the dram seller was forever closed.

A great difficulty in the way of reform in the liquor business is that too much is expected. No moral reform

is ever complete. Difficulties strew the way and obstacles are ever to be surmounted. "Whatever enters the atmosphere of moral action," says Francis Wharton, (*Princeton Review*, July, 1878,) "finds itself subject to the conditions of that atmosphere," and great uncertainty as to results prevails. The utmost that can be expected from the conflict against wrong is a preponderance of good, not an abrogation of evil.

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## Art. VI.—Four Cases of Genital Reflex.

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By E. W. SAUNDERS, St. Louis.

THE subject of reflex nervous disease being yet *sub-judice* in the minds of some, it is deemed not amiss to make brief record of the following cases of reflex gastralgia, dependent upon adherent prepuce.

I. Harry H., four years old, a child of extraordinary size and vigor, was brought to me by his mother, who stated that the boy had, for several weeks past, been complaining of pains in the stomach. In the midst of play, he would suddenly put both hands upon his stomach and run to his mother, crying with pain. In a few minutes the attack would be over, and he would return to play. This would be repeated several times a day, and the paroxysms seemed entirely independent of taking food. He would also wake up in the night, crying with the pain. I tried quinine and various other remedies, without the slightest effect. After ten days of fruitless medication, I had the boy stripped, and made a thorough examination, suspecting the possibility of incipient spinal disease. Finding nothing but an adherent prepuce, I separated it from the glans, merely as a matter of routine.

At the next visit, the mother stated that there had been no more paroxysms. After two weeks, however, the pains returned, though much less intense and more infrequent. The prepuce being rather tight, circumcision was then performed. The attacks never returned, though a year has elapsed.

II. Algy B——, three years old, a delicately formed, though very active child; has had "since birth," so his mother states, more or less pain in his stomach. The symptoms as at present existing correspond to those described in case 1. On examination an adherent prepuce was found and at once separated. It was neither redundant nor very tight. Since then, a period of six months has elapsed without a single return of the pains.

In the first and second cases there was discernible no hereditarily transmitted neuropathic element.

III. Freddy E——, a fine child of five years, has had for six weeks past exactly the symptoms described in case I. He had been under my observation for two years previously, and, with the exception of an attack of diphtheria, has been perfectly healthy. Examination revealed an adherent and very tight prepuce, which was at once separated. The same evening circumcision had to be performed, to obviate the phimosis which followed. The attacks have never returned, three months having elapsed. The severity of the paroxysms is shown by the fact that the child, after the operation was performed, would frequently ask his mother "if those pains would come back now." The father of the patient was an inebriate. The mother has suffered from uterine retroflexion and general nervous disturbance since the birth of the child.

IV. S——, three years old was brought to my office with a similar history to those already given. An adherent prepuce was found and separated. No more attacks have occurred during the six weeks which have elapsed. A recent examination disclosed the fact that limited adhesions have again formed, the prepuce being very long

and rather tight. Parental antecedents unknown to me.

Adherent prepuce is so common in infancy, that it may be considered a normal condition. In adults I have never seen it. Evidently, then, the adhesions must be, as a rule, broken up by accident as children grow older. The age at which this takes place must vary. I have found a partially adherent prepuce in a fine boy of seven, who had never had any reflex symptoms. In all the reported cases the prepuce was adherent throughout its whole circumference, the only portion of the glands which was free, being a greater or less area around the meatus. I have also seen a completely adherent prepuce in a healthy boy of five, who had manifested none of the symptoms found in the other cases. One noticeable fact is the relatively large size of the penis at birth, and its slow development until near the age of puberty. It is clear, then, that whereas a tight or adherent prepuce does not, in the vast majority of cases, give rise to any symptoms before the condition is remedied, yet in many cases it does. The occurrence of four cases in my practice after my attention was called to the subject, would seem to indicate that these heretofore neglected cases cannot be very infrequent. No doubt the majority of them are cured by the accidental separation of the prepuce, which would seem to be the normal course of events in all cases.

Prof. Bauduy, of St. Louis, has observed and reported a case similar to those described.

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## Art. VII.—Animal Magnetism.

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RECENT STUDIES COLLECTED BY DR. G. SEPPILLI, OF  
REGGIO-EMILIA, ITALY.\*

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Translated by JOSEPH WORKMAN, M. D., Toronto, Canada.

THE symptoms manifested by hypnotism are distinctly those of motility and sensibility, and the psychical. They merit our full attention, because they have much analogy with others which enter into the domain of the physiology and pathology of the nervous system, and they fall frequently under our observance.

PHENOMENA OF MOTION.—Augmentation of the reflex excitability of muscles, and hence of their tonicity, is one of the phenomena most common, and most interesting to observers of hypnotized persons. It is known that, in normal conditions, the muscles, even when not acting, are found in a state of slight, insensible contraction, which is called tonicity, and is of an essentially reflex nature, being accomplished through a diastatic arc, whose center is the spinal cord, and whose paths of conduction are the sensitive fibres which go to the cord, and the motor fibres which proceed from it to the muscles. We also know, from the researches of *Setschenow* and *Goltz*, that the cerebral centers represent an inhibiting and moderating apparatus of the spinal reflexes, and that when the former cease to function, the latter become exaggerated. This condition of the nervous centers is really met with in hypnotism, in which the cerebral activity becomes paralyzed in different degrees, and in consequence the muscular tonicity becomes exaggerated, and, therefore, the excitability of the muscle is augmented in such a manner that it responds to very light stimuli, with a reaction much stronger than in normal conditions.

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\*Authors cited: *Berti*, 1852; *Berger*, 1880; *Buccola*, 1881; *Richet*, 1881; *Regnard*, 1881; *Brook*, 1880; *Chambard*, 1881; *Charcot* and *Richet*, 1881; *Bourneville* and *Regnard*, 1881.

In magnetized subjects this muscular hyper-excitability is exhibited in the form of a transient contraction of the muscle, etc., that is to say, a contracture. Direct excitation of the muscle, (as by a slight touch, rubbing), passive extension, or magnetic passes, are stimuli sufficient to produce contracture.

According to the degree of reflex muscular excitability, which increases with the repetition of the hypnotic state in the individual, the mode of diffusion of the muscular contracture varies, when it is excited in a given part of the body. In slight degrees the contracture remains limited to those muscles which are situate under the cutaneous region stimulated. Thus, by touching lightly the flexors of the fore-arm, the fingers flex and the hand is bent on the fore-arm; by exciting the skin corresponding to the sterno-cleido mastoid of one side, this muscle contracts and wry-neck is produced. With a stronger degree of muscular excitability, contracture is obtained not only of the muscles of the stimulated region, but also of those situated at some distance from them; for example, by passes executed along the thumb, we put in motion, besides its extensor and flexor, also the muscles of the fore-arm, especially the flexors, the muscles of the arm and the shoulder, so that the whole limb becomes rigid and immovable. Finally, when the muscular excitability is augmented in a very high degree, we see a state of general contracture follow excitement of a part of the body. *Heidenhain* executed on his brother passes on the palm of the left hand, and in a few seconds he saw contracture arise in several groups of muscles, in the following order: The palm, the hand, the fore-arm, the arm and the shoulder, on the left; the shoulder and arm, the fore-arm and the hand on the right; the leg and thigh on the left; the thigh and leg on the right; the masticator muscles and those of the neck.

It was observed by *Berger* that in profound hypnosis we can, by passes, provoke movement of the tongue, and especially in the direction of the passes, (*e. g.*, the tongue

is shot out spasmodically when the passes are made from its root to the point), and in like manner movements of the eyes may be produced (conjugate deviation, strabismus).

In the hypnotic state, a somewhat intense movement of some groups of muscles is capable of causing them to enter into a state of contracture, in consequence of which the part of the body in which it occurs—as the head, a limb, etc.—is bent into a new position.

The muscles, in the state of contracture, manifest an extraordinary force. It is, in fact, most difficult, and sometimes impossible, to extend the finger when it is bent on the palm, after contracture provoked in the flexor muscles of the hand. This was very clearly demonstrated by the observation made by Heidenhain, who put a student of medicine on a chair, making him lay hold of its arms; after being hypnotized by means of passes along the arm, the fingers of the student siezed spasmodically the seat. In the asylum of Reggio we have an hysterical epileptic, in whom hypnotism is very easily produced in the ordinary method (by passes, fixation on some object of sight). By pressing at this time the finger on the masseters, these enter into a state of contracture, etc., so intense that they are figured under the skin, as two thick cords of strong hardness, resisting any force whatever to separate the jaws.

In robust persons the muscular contracture during hypnotism is so strong, as to give place to a tetaniform state, which renders it hardly possible to change the position of the part of the body acted on. The contracture once produced, is not dissipated on the cessation of the stimulus which caused it; if this be rather strong and prolonged, it continues for some time without any sense of uneasiness or tiredness being felt by the individuals.

The fact narrated by Berger in this relation of a girl magnetized, who remained seven hours motionless, in a position given to her; and still better the following observations of Richet are illustrative of this condition:

"R—x, a man of 18 years, subjected to passes during 10 minutes, found himself a little sleepy, but kept his eyes open, and his intelligence and consciousness intact. If his arm was extended, it remained rigid and stretched horizontally for a quarter of an hour without any feeling of tiredness."

"F—, a man of 25 years, after passes made for five minutes, had all his muscles highly excited. Contractures of this or of that muscle could be provoked, which lasted almost indefinitely, and was a little painful. If he was caused to hold a weight with the arm extended, it remained contracted in the horizontal position. The triceps was hard and tight as a cord. Some force had to be exerted to bend his arm."

"H—, a woman of forty-two years, was placed under passes for ten minutes. The muscles became so excitable that direct, weak stimuli suddenly brought them into contracture, and, if movements a little more energetic were made, they remained fixed in the position taken. The muscles of the neck, the arms and the legs could continue under the influence of a force, and even after it. In the meantime, neither her intelligence nor her consciousness was disturbed. She was comparable to an articulate pupa. This bizarre state was prolonged for about half an hour."

It is just in this muscular imperceptibility, through which we so easily obtain contracture in the hypnotic state, that we should find the explanation of some phenomena which have, to the vulgar, appeared marvellous and supernatural, and have, by those who do not take the trouble of examining them, been regarded as simulations and cheats. When a magnetizer has announced that the subject put asleep by him will be unable to close his eyes or to move a limb, which shall, for a long time, keep the same position, even though a troublous one and, when recurring to manœuvres, more or less mysterious and fantastic, he has induced belief in the power of his will, he has produced in the magnetized subject



merely a tetaniform state, by means of which those parts of the body cannot be changed from their position. *Hansen*, for example, hipnotized an individual, and places the arms in a position given to them by a nurse when she carries a baby, holding it horizontally; he then made passes along the arms, and this light cutaneous excitement produced, in a reflex way, a muscular rigidity, from which the arms maintained durably the attitude given them. Another time he provoked hypnotism in a person by fixation, and, while commencing, he made him pronounce his own name. As soon as hypnosis began, the power of articulation decreased, because certain muscles necessary for it passed into a state of permanent contracture, and thus the possibility of speech was taken away (*Heidenhain*).

The reflex hyper-excitability of the muscles, which is, as I have said, the causal condition of the contraction, and of the muscular contracture, is a phenomenon which, as *Charcot* first demonstrated, presents itself in cases of hysteria major, during provoked hypnotism. This illustrious French clinic observed that in putting a patient in front of a very bright light, in the space of some seconds to some minutes, she fell into a cataleptic state, in which there was total and complete anæsthesia, little or no muscular rigidity, attitudes of various parts of the body to preserve the position imposed on them, impossibility to get the muscle to contract by mechanical excitation. If now the light was suddenly withdrawn, or the patient's eyes were closed, a lethargic state succeeded to that of catalepsy, in which the head was thrown back, the throat forwards, and sibilant breathing was heard. These symptoms correspond with the primary phase of an attack of epileptic hysteria, but that the limbs, instead of presenting the tetanic state of the epileptoid period, are in a state of complete resolution, whilst they present a muscular hyper-excitability. Hence, in the lethargic state, direct excitation of the muscle provokes contraction or contracture. A light rubbing over the sterno-mastoid causes the head to rotate to the opposite side; the excitation

of the sterno-mastoid of the other side brings the head back to its position, and persistence in the excitation rotates it inversely. Every muscle of the face, isolately touched, contracts as if under localized Faradization. In the same manner, there may be provoked, in hysterical patients brought into somnambulism, positions the most bizarre, which seem incompatible with the laws of equilibrium. In a pleasant conference very recently with Regnard, on sleep and somnambulism, two hysterical hypnotized persons were spoken of, in whom contracture of the muscles of the back was provoked, by which so strong a bending back of the head was caused in one as to carry it to the lumbar region, and, in the other, to the heels, so that the body was in the form of an arch.

Charcot has likewise observed that besides imperceptibility in the muscles, in the cases mentioned, the condition is present in the nerves also. Thus, by compressing the cubital nerve at the elbow, the muscles in relation with it are contracted, and the hand takes the attitude denominated *griffe cubitale*, whose characteristics are slight flexion of the fist, flexion of the last two fingers, adduction of the thumb, extension and adduction of the index and middle fingers. By exciting the median nerve a little above the bend of the elbow, pronation of the fore arm is produced, also flexion of the fist and of the fingers, with apposition of the thumb (*griffe mediane*). So likewise a light pressure made before the lobe of the ear, at the point of emergence of the facial nerve, provokes contraction of the muscles of the face, in which the nerve ramifies.

It has been established by Charcot and Richet, that by means of a magnet, transference, not only of artificial contracture in the mass of a whole segment of a member, but even of a contracture localized in certain muscles, can be effected. They saw, for example, that in a patient put to sleep, on whom contracture of the right hand had been produced in the attitude of the *griffe cubitale*, by approaching a magnet to the left arm, disappearance of

the contracture in the right was obtained, whilst the left hand became contracted in the same position as the right had been.

From ulterior researches by Brissand and Richet, it results that the contracture of the muscles, in women affected with the *major hysteria*, is easily determined even when the state of somnambulism has been provoked, by producing in the muscle a violent contraction, or by requesting the patients to execute spontaneously a strong movement, or by resisting a movement made by them. Thus, for example, some patients were invited to turn the head to the left, and were held fixed in this position, contracture of the sterno-cleido-mastoideus of the right was observed. The orbicular muscles of the eyelids remained hermetically contracted when the patients closed the eyes, and they resisted the forces used to open them. In this manner the authors named were able to provoke contracture in almost all the voluntary muscles (the biceps, triceps, gastrocnimius, etc.)

We have believed it necessary to relate these facts, as they establish a relation between the somnambulism artificially produced in sound persons, and hysteric neurosis, for, in the one case as well as the other, we find an increase of muscular excitability. For the same reason hypnotism has much analogy to spontaneous catalepsy, in which it is known that in the different parts of the body, any attitude desired may be given, and that it will last for a certain time. The hypnotic state has therefore by some authors been termed *an artificial catalepsy*.

With the same facility with which, in some cases, contracture is determined in the muscles of hypnotized individuals, it may be taken away again. The processes most commonly used are making friction, even lights, blowing on the contracted muscle, or putting in action the antagonist muscles. If the forehead of a hypnotised subject, who has the eyes and the mouth spasmodically closed, be touched with a piece of cold glass, these parts become relaxed, though the hypnotism continue. Brissand

and Richet have seen in their patients, under grave hysteria, that relaxation of the contracted muscles was obtained by merely holding between their fingers the tendons of their insertion (the triceps, brachialis and sterno-cleido-mastoideus, gastrocnimius, etc.)

They also saw that in patients put to sleep by fixation of the eyes on a brilliant object, application of a caoutchouc bandage around the contracted member, in the course of five to six, or at the most eight minutes, removed the contracture, which might be provoked anew some time after taking off the bandage. This experiment shows how much the sanguineous circulation influences the production of the muscular contracture, as the state of anæmia artificially induced by the bandage causes the muscle to lose its excitability, in consequence of which it no longer, when stimulated, gives way to contracture.

It might be supposed that the muscles, during the state of contracture, should have their excitability augmented when subjected to the electric current. This, however, does not result from the experiments of Brissand and Richet, who have observed that during provoked somnambulism, the contracture does not, in any sensible manner, modify the excitability of the muscle under electricity. In fact, the biceps of an hysterical woman put to sleep by fixation of the vision, presented the same degree of excitability before and after; when producing very light febrillar contractions, an electric current of induction No. 21, was passed by the rochette of Dubois Raymond, the needles of which were implanted in the muscle. Berger and Heidenhain have also established that the electric excitability of the muscles presents, during hypnotism, no real difference from the normal state.

The phenomena of exaggerated muscular excitability are ordinarily well exhibited in the more intense degrees of hypnotism. They do not fail, however, to be seen also in the lighter degrees in which they may constitute the only symptom.

One of the phenomena most constant and most characteristic of the initial phase of hypnotism, and which sometimes represents the unique effect obtainable by magnetic practice, is presented in the impossibility of voluntarily raising the upper eyelid. The eye remains half closed, it becomes red and tearful, the patient tries to open it, but does not succeed at all, or with great effort, and she complains of a sense of weight on the eyelids. The inability to raise the eyelids is in some cases very remarkable. Richet observed it in his friend who was incompletely magnetized; and though awake and able to walk through the room, he was unable to raise the eyelids.

Sometimes in the first magnetic experiments made on one subject subjected to the initial stage of the hypnotic state, the phenomena of muscular hyper-excitability are not observed, but rather a species of muscular torpor, the limbs are relaxed and the patients complain of feeling tired and cannot move about.

The so-called *phenomena of unilateral hypnotism* described by Heidenhain, Grützner and Berger, are worthy of special mention. These gentlemen have noted that from practising gentle and repeated passes on the left parietal region, the extremities of the opposite side entered into a cataleptic state more or less complete, and there was inability to pronounce words from the want of co-ordination of the necessary movements for their articulation (*aphasia ataxica*.)

On the other hand passes made on the right parietal region were followed by catalepsy in the left limbs, but there was no aphasia. If the passes were executed simultaneously on both sides of the head, there was produced only a cataleptic state of the limbs without disturbance of speech; but if the passes were first made on the left half of the head until this effect was obtained, and then they were transferred and executed only on the right side of the head, the aphasia and the catalepsy of the right half of the body disappeared, and a little after, dis-

turbances of motion on the left half were manifested. In all these researches it was found that consciousness continued intact. Not in all cases have magnetic practices made on one-half of the body given place to effects equal to those just described. Thus, sometimes the unilateral passes do not provoke the cross catalepsy, but that of the same side, or on both sides at the same time, and in this case more intensely on the opposite side. Wishing to understand how it happened that catalepsy appeared now direct and now crossed, after unilateral passes, it seemed not inappropriate to have recourse, as Berger and Heidenhain have indicated, to the elegant anatomical researches of Flechsig, on the different bearing of the cross and the direct fibres in the pyramids, and thence along the spinal cord in various cases.\*

It may thus be held that the direct fibres predominate over the crossed ones in cases of direct unilateral catalepsy, and the contrary obtains in crossed catalepsy. In the former the excitement of a hemisphere is diffused along the nervous fibres of the same side; in the latter it is carried in the fibres on the opposite side. As regards the further prosecution of this subject, we merely offer this idea as a simple hypothesis, and the more readily because the same has been applied by Dr. Maragliano, to explain in what manner it happens, in a given destructive lesion of a cerebral hemisphere, that in the majority of cases there is crossed paralysis, but in some, a paralysis undoubtedly direct.

Charcot has been able, on the same person affected with hysteria major, to produce temporarily a hemilethargy and a hemi-catalepsy. We have before seen that he produced, at first, by luminous impression, the

\* Each of the two bulbar pyramids gives origin to two fascicles, one direct, which is continued in the corresponding anterior cord of the medulla spinalis, and one crossed, which is carried in the opposite lateral cord, decussating with that proceeding from the other pyramid. In the great majority of cases, according to Flechsig, the pyramidal fibres form the greatest part of the cross fascicle (91.697 per cent.), the remaining small direct fascicle having (3.69 per cent.). In a very small number the inverse fact obtains, and the direct fascicle is much more voluminous (90 per cent. of the pyramidal fibres), whilst the crossed fascicle has only 10 per cent. (*Flechsig, Die Leitungsbahnen des Gehirns und des Rückenmarks, Leipzig, 1878*).

cataleptic state, and by briskly suppressing the light, the lethargic state.

Now, let us suppose the patient placed in a cataleptic state by means of a bright light. If her eye is closed, *e.g.*, the right, she becomes lethargic on the right side only, and cataleptic on the left; that is to say, the limbs and face on the right side are relaxed and present a muscular imperceptibility, whilst on the left they have conserved the property of maintaining the attitudes communicated to them. Ballet observed that in hysterical patients of the Salpetriere, after having provoked in them what Charcot calls the lethargic state, they proceeded to speak when the left eye was held open, but if this was closed, and the right opened, speech remained abolished. He relates the two following facts:

"A patient was hypnotized. They told her to count, and she began with the number one, and went on automatically. Her left eye was opened and she was not stopped, but as soon as the right eye was opened, she ceased, and afterwards, when the right eyelid was brought down, she resumed her counting spontaneously. Another hysterical knew by heart some verses. Being requested, she recited them, but if they opened her right eye she was no longer able to continue the recitation.

Now, if we consider that the relation of the eyes with the brain is in great part crossed, we may hold that, in the cases last noticed, the luminous impression received by the eye held open, was carried most especially to the opposite cerebral hemisphere. Hence the aphasia was an effect of the modification of the left cerebral hemisphere, induced by excitement, which would go to confirm the relation, now at length established by clinical and anatomo-pathological researches, between the left hemisphere and the function of language. In consequence of this, the induction appears reasonable that if passes made on the left half, only, of the head determine aphasia, this should happen because they exercise a modifying action directly on the left half of the brain. The same

induction applies likewise to the phenomena of unilateral motion following magnetic practices on one side of the head.

[ *To be continued in our next Number.* ]

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## Art. VIII.—An Unique Case of Persistent Rhythmical (Clonic) Spasm.

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By C. H. HUGHES, M. D., St. Louis.

WITHIN the past three years two cases of persistent rhythmical spasm, not post hemiplegic in character, have fallen under my observation, one of which I here briefly record. The history of the other being more complex and lengthy, and its true nature being more liable to be questioned, will be given to the profession at a more convenient season.

A maiden lady, past the menstrual climacterix; of light weight, slight figure, dry and shriveled skin, blue eyes, fair complexioned, hair intermixed with gray; good education, intellectual tastes, studies, and reflective habits, pecuniarily well circumstanced, and without household cares or other incumbent occupation to necessitate daily physical effort of any kind, first consulted me in February, 1880, and has been under my medical care ever since.

Dyspepsia, sleeplessness, and general neurasthenia, and hæpatic torpidity preceded the spasmodic symptoms, but *there had never been any precedent apoplexia, epilepsy, hemiplegia or rheumatism.* The patient has had some vertigo, but no headache, but it could not be decided whether the vertigo was hæpatic, gastric or central.



The characteristic feature of the case was the simultaneous spasm of the four flexors of the lesser toes and the extensor tendons of the great toe of the left foot, making locomotion painfully impossible on account of the turning in of the toes under the foot, especially the least one, which would retract more than the others most of the time, though the others would sometimes be the most drawn under, and sometimes unaffected, while the great toe would always be drawn upward. Accompanying the foot athetosis was a more prolonged spasmodic closure of the eyelids, and retractive movements of the sternomastoid, scaleni and other muscles of the neck and upper dorsum, so as to give the head a peculiar alternately to and fro, projecting and retracting, semi-rotary movement, somewhat like the projection and withdrawal of a duck's or swan's head and neck under certain circumstances.

The muscles of the affected limb are painful from the powerful contractions and force exerted; to restrain them intensifies the pain in the affected muscles. She is much more comfortable when sitting up than when lying down; in fact, cannot lie down long without suffering, except when asleep.

Neither tactile sensibility nor temperature vary greatly from the normal in the affected limb.

Under treatment, the head and eyelid movements would cease for long intervals, but the toe movements have never entirely ceased, except in profound sleep.

Galvanism, persistently employed, signally failed in her case, as did likewise the arsenic given conjointly. The best results followed under the combined use of concentrated peptonized nutrients, arsenic, comp. lacto-phosphates and the calcium and ammonium bromides, with chloral and celery extract in the form of celerina, at night when sleep did not come to her spontaneously.

This patient, after having got well enough to go to the seaside, is unable to go into the surf by reason of the painful spasm in the foot and the disease has since displayed itself in the right toes.

As an incident of interest to surgeons, connected with this case, as showing the importance of differentiating this peculiar form of contraction from retracted tendon caused by abnormal shortening, we record the fact that a surgeon of some repute as a tenotomist operated without avail upon one of the retracting tendons and the scar and unarrested movements continue to perpetually menace this surgeon's future temerity in like cases.

When the patient's symptoms are most aggravated, she becomes irritable and despondent about her recovery, wishing to be alone and undisturbed. Her mental faculties are clear, however, and she displays, most of the time, a good deal of mental strength and character. I can get no history of early chorea. At times, she has tremors, when attempting to walk, suggestive of sclerosis, and stuttering and aphasia, though she finally says what she attempts to speak, which, added to her occasional vertigo, probably points to a cerebral origin of her trouble. The eye-balls move naturally and steady. The muscular contractions are deliberate and strong, as if willed to gradually clasp an object, except that of the extended great toe, and they partially relax with the same appearance, as though willed, though there is, in fact, no effort of will employed. There are remissions in the toe contraction, but no distinct intermissions except while adequate mechanical force is exerted upon them by the hands of others.

The spasms, in this case, having all the appearance of deliberate direction of the will, while they are not really so directed, but involuntary and beyond the will control, and though rythmical yet incoördinate, and, there being neither antecedent epilepsia nor apoplexia to associate them with, it may be set down as athetotic in character, the symptoms referring its probable pathology to the head.

The other case occurred in a farmer's wife, the mother of grown up sons and daughters; the spasmodic movements being confined to the left hand and arm. The distinctive disease set in after a long and painful series

of nervous troubles extending through several years, none of which have been definitely diagnosed, but all of which have been attributed to hysteria. Like the preceding, there has been no apoplexy or epilepsia in her case, but considerable conscious vertigo at times, and distressing noises in the head.

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## SELECTIONS.

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SEVENTH SESSION INTERNATIONAL MEDICAL CONGRESS, held in London, August 2d to 9th, 1881. Abstract of papers read on psychiatry and nervous diseases.

MENTAL STUPOR. *By D. Hack Tuke, London.*—The cataleptic variety of mental stupor is caused by the exclusive direction of the mind upon a melancholy delusion, or, if this is absent, from brain exhaustion, due to various causes calculated to paralyze volition and allow of involuntary action, and this state, when completely established, is no longer one either of melancholia or dementia, as regards the patient's actual mental condition at the time, although it may terminate in the latter.

The more cases of so-called acute dementia are investigated, the more they will be found to be examples of mental stupor combined with melancholia, the physiognomy of indifference masking the feelings of depression, and the discovery of the patient's melancholy delusions and hallucinations being only made by his physician on the recovery of the case.

As to nomenclature; while recognizing the different mental states, marked by intensive and melancholic absorption of mind on the one hand, and by an utter blank on the other, the former blends so imperceptibly into the latter, and they so frequently cannot be distinguished until after the patient's recovery, that it appears to me more convenient to employ the term "mental stupor," as comprising both, qualified by the words "with melancholia," when we have certain proof of this condition being present, thus getting rid of the term "acute dementia" altogether, which confounds the curable state in question with a form of mental disorder, with which it has not, necessarily, any pathological connection.

ON UNILATERAL HALLUCINATIONS, AND THEIR RELATION TO CEREBRAL LOCALIZATION. *By Allen Robertson, Glasgow.*—Hallucinations may be one-sided, and, although such cases are considered very rare, this variety is more apparent than real, because that stage and form of insanity in which they occur has been seldom investigated. Cases were read, care being taken to include only such whose hallucination were of cerebral origin, and excluding those of peripheral origin. Unilateral hallucinations are most common in the forms of insanity due to alcohol. The reason why they should preponderate so greatly in the auditory sense was considered, and the fact that they are more common in the left than in the right eye was also noted.

In unilateral hallucinations, the special center involved is held to be weaker on the one side than on the other, though some cause, either congenital or acquired, and such an agent as alcohol in the blood acts with special violence on this part. From this point, morbid action spreads generally, involving the mind as a whole. The psycho-sensorial centers are held to be affected rather than the centers of special senses in the sensorium.

A certain analogy is presented by motor disorder to the mental one. The psycho-sensorial phenomena under consideration are probably associated with some other portion of the cerebral surface.

THE TEACHING OF PSYCHIATRIC MEDICINE. *By T. S. Clouston, Edinburgh.*—The great importance of some knowledge of mental diseases to medical men is admitted universally. Opinions differ as to the time and way this is to be acquired. A month or two residence, or daily attendance, in an asylum during vacation, or attendance on twelve clinical lectures, would not seriously overburden the curriculum. The students must be brought face to face with the patients. Typical, well-marked cases must be selected, and their essential features pointed out by the instructor. The student should see a few brains in which pathological changes are well marked, as in general paralysis of the insane. Questions should be set at an examination to test knowledge of mental diseases.

For a more thorough knowledge, a three months' course is needed, including systematic lectures, clinical instruction and pathological demonstrations. All students above average capacity, and all who take five years' study, and all who will undertake public appointments in

the public service, should take this. A school of medical psychology for practitioners is an ideal not yet to be attained in our busy profession for one reason, because there are not sufficient practical rewards for those who might so spend a portion of their time.

CEREBRAL LOCALIZATION AND HALLUCINATIONS. *By Prof. Tamburini, Reggio.*—The author endeavored to show that the first discovery of the sensory centre (that of sight) in the cortex cerebri was made by Panizza in 1856, but that the full development of the discovery is due to Ferrier. He also adduced further evidence to show that hallucinations are caused by disease of the sensory cortical centres.

FLETCHER BEACH, Darenth, read an interesting communication on the morphological and histological aspects of cretinoid and microcephalic idiocy, illustrating it by brains and microscopical sections.

ON THE RELATIONS OF INSANITY AND PARALYSIS AGITANS. *By Prof. Ball, Paris.*—Although paralysis agitans bears a close resemblance to sundry other brain diseases of recognized anatomical character and seat, it must still be classed with the neuroses. It is, therefore, to be expected that disturbances of the physical function may occur in the course of shaking palsy, as well as in chorea, epilepsy, etc., and this is found to occur, sometimes. In milder cases, restlessness, irritability and quarrelsomeness, are the only symptoms; but in more severe cases, stupor, hallucinations, insanity of suspicion, despondency and suicidal tendencies may all be observed. These symptoms are not due to the pain and motor disturbances, as they may be well marked in otherwise slight cases, and may be absent when much pain is felt.

GOUT AS ASSOCIATED WITH INSANITY. *By H. Rayner, Hanwell.*—In this paper the author considered gout in its acute form, followed by insanity and suppressed gout and the symptoms of insanity. He then pointed out the similarity of gouty insanity to that produced by other blood poisons, such as those caused by lead and alcohol.

EXOPHTHALMIC SYMPTOMS AMONG THE INSANE. *By Geo. H. Savage, London.*—With true exophthalmic goitre mental symptoms may occur. The author detailed three cases with result of post-mortem examination in two. His next conclusion supported by clinical evidence is, that

some of the symptoms of the disease may occur in cases of general paresis of the insane. He related a case showing that symptoms of this diseased state may recur during attacks of mental disease, and be absent in the intervals. In this last case, hyoscyamine had a markedly good effect.

ON MEGALOMANIA. *By A. Foville, Paris.*—This form of insanity was formally considered a symptom of general paresis. The author endeavored to show that there are two distinct kinds of megalomania, the exalted delusions, being either fleeting, inconsistent and generalized, or systematic and permanent.

The former variety is better known as a symptom of general paresis, but it may also occur, for a short time, in the course of ordinary mania of organic brain disease, and of alcoholism. In all these cases it is probably connected with hyperæmia of the cortex of the brain.

The second variety is always chronic in its evolution, and is almost always incurable, the delusions gradually fading away into dementia. It is always accompanied by other symptoms, usually hallucinations and delusions of persecution which have usually preceded the belief that patient's personality is changed to one of greater wealth and importance. It is therefore closely connected with melancholia.

METHOD OF PREPARING LARGE SECTIONS OF HUMAN BRAINS. *By A. Haller, Vienna.*—The method consists in hardening the brain in bichromate of potash or miller's fluid without using alcohol. Large sections are made and stained with carmine ammonia and then placed in Canada balsam. Next they are fixed on the object glasses; after drying, they are reduced in thickness with common knives, and then by scraping with tenotomy knives. The thin sections are scaled after having been cleared by means of oil of cloves or other essential oils.

SOME OF THE CRANIAL CHARACTERISTICS OF IDIOCY. *By G. E. Shuttleworth, Lancaster.*—In a general view there are not such striking abnormalities as would be expected; but at each end of the series there exist remarkable deviations. The microcephalic cases on the one hand, and the hydrocephalic or hypertrophic on the other, furnish the most remarkable.

The author described "Mongol" or "Kalmuc" and "Cretinoid" idiocy in relation to the form of the skull,

all of these being microcephalic. In paralytic idiocy, atrophy of the brain on the opposite side produces marked asymmetry of cranial contour. Less than 2 per cent. of 600 cases noted are due to the use of forceps.

A scapho-cephalic distortion is occasionally observed in idiots, and is attributed to pressure in parturition. Large indentations in the skull are sometimes produced by accident, but no general rule as to mental condition of traumatic cases can be laid down, the effects varying much with the extent, site and severity of the pressure.

ON THE PHYSIOLOGICAL PATHOLOGY OF HALLUCINATIONS. *By E Fournie, Paris.*—The author began by describing the conditions and nature of memory. He considers this due to a stimulus transmitted from the cortical cells (which preserve impressions once made upon them), to the optic thalami; and the re-awakening of activity in that ganglion gives rise to an act of memory.

He then argued that an hallucination is merely a process in which a stimulus of this kind originates involuntarily and unconsciously in the cortex, and is sufficiently powerful to induce a belief of its external reality.

The stimuli thus produced are derived from the following sources, which, therefore, are the best basis for a satisfactory classification of hallucinations: 1.—The sensations of organic life. 2.—The sensations connected with reproduction. 3.—The sensations or the special senses. 4.—The sensations produced by the voluntary activity of our organs.

The last head is the most important as regards all the higher psychical functions and speech in particular.

THE BRAINS OF CRIMINALS. *By Prof. Benedikt.*—The exhibition of the law of atypism (a deviation from the type form) in the brains of criminals is a discovery that the author claims as his own. He considered the relation of atypism as a cause of disease.

The law of atypism consists mainly in the general coalescence of the typical fissures, and, in the general appearance of the fissure arrangement, which one sees in various classes of mammals.

ON TESTAMENTARY INCAPACITY. *By A. Bucknill, London.*—The author commented on the importance of the subject in this country, where testamentary papers are unlimited, as distinguished from countries where they are restricted by law. He described the nature and degree

of mental faculty which ought to be recognized as necessary and sufficient for making a valid will. He briefly reviewed the most important legal judgments thereupon, and more fully criticised the judgment of the Court of Queen's Bench in "*Banks vs. Goodfellow*," which, at present, is the leading case. The author then discussed the separate bearings upon the testamentary incapacity of delusion, weakness and confusion of mind, and of the emotional disturbance of insanity, and of imbecility, mania, and monomania; and, finally, he considered the methods of courts in determining these questions.

**PARETIC DEAFNESS.** *By Edward Woakes, London.*—This paper sets forward two chief causes which induce deafness where there is no objective or abnormal condition of the external and middle ear, viz: disease of the labyrinth or of the auditory nerve in some portion of its course or origin, which constitute one group of cases; and neurotic lesions of a parætic character of the muscular apparatus of the middle ear, including the Eustachian tubes, which contribute the second, and far more numerous class of such cases. The symptoms are characteristic and constant, they are negative as regards the ear, objectively positive as regards the palate and faucial region. Then the author gave the differential characters, complications, causes and treatment, followed by the recital of a number of cases.

**A CASE OF SUPPOSED "NEUROTIC EXCORIATION."** *By Alfred Sangster, London.*—This case was under observation three years; it was one in which painful erythematous patches were succeeded by exudation, on the surface, of serum and sero-pus, each patch terminating in desquamation, and running its course in ten to fourteen days. There was no vesiculation or loss of substance. The longest interval, during which the patient had been free from the lesions, was three months. It was first described by the author as a case of abortive herpes; but its subsequent history went to show that the eruption (if genuine) was probably one of "neurotic excoriation" (Wilson).

**ON GRAPHIC REPRESENTATION OF TENDON REFLEXES.** *By Prof. Eulenburg, Greifswald.*—The author explained a method devised by himself, by means of which it is possible to measure accurately the duration of the periods of latency and convulsion. In a healthy adult, the difference of time between the moment of irritation and that of commencement of contraction



averages between 0.0242 and 0.03226 seconds; which correspond respectively to one and one-half and two vibrations of a tuning fork making 62 vibrations a second. The duration of the curve of the convulsive period vacillates in healthy people between 6 and 14 vibrations. In disease, periods of latency can be diminished to fractions of one vibration; the contraction is more powerful, and its duration more prolonged (20 to 40 vibrations), as in spastic spinal paralysis, disseminated sclerosis, etc. In other diseases, the periods of latency may be increased, the contraction feeble, its duration simultaneously diminished, as in neurotic atrophies, and after nerve stretching. Strychnia increases the tendon reflex.

ON PERCUSSION OF THE SKULL IN THE DIAGNOSIS OF DISEASE OF THE BRAIN. *By Alex Robertson, Glasgow.*—The author called attention to this subject in 1877, but it is comparatively new to the profession. The paper deals with the objections made to this method of diagnosis. After this, clinical experience is brought forward to sustain the views upheld. Then follow brief notes of six cases under the writer's care. After this, the mode of practicing percussion of the skull is described. It is not claimed that this means of diagnosis will be of very wide application. It probably will not be of service if the morbid action be diffused, as in ordinary cases of insanity. It is chiefly of use where the disease is limited in extent, and particularly where it is attended with gross products, such as inflammatory lymph producing local tension, or tumors of the surface or in the membranes.

PATHOLOGY OF BASAL BRAIN-TUMOR, WITH DEMONSTRATIONS OF A VERY RARE CASE. *By F. Muller, Gratz.*—This particular case showed the simultaneous existence of *eleven alternating forms of parlyses*, among them an alternating sensory paralysis of the trigeminus, and of the extremities, inclusive of trunk. The motor hemiplegia, entailed by the destruction of one-half of the pons, is persistent, while the sensory paralysis is only of a transitory nature. This shows that one intact half of the pons is sufficient for the conduction of the entire sensibility of all the extremities and of the trunk. Destruction of the middle crus cerebelli produced in the case involuntary manège movements, and a falling towards the opposite side.

The same author read a contribution towards Jackson's "Epilepsy and Localization of the Arm-Center," with dem-

onstration of a case of isolated, circumscribed convulsion. In this he concludes that the arm-center is situated in the middle third of the anterior and posterior central convolution, and in the adjoining part of the fissure of Rolando.

ON CERTAIN LITTLE RECOGNIZED PHASES OF TABES DORSALIS. *By Thomas Buzzard, London.*—Incoördination of movement in tabes dorsalis has been given such prominence that it has come to be regarded as an essential symptom. The author accepts Wesphal's symptom (absence of the knee phenomenon) along with good voluntary power in the anterior muscles of the thigh, as almost positive evidence of tabes dorsalis when associated with any one or more of the recognized symptoms. The author cited clinical cases and suggested that many cases of so-called "gout in the stomach" may be examples of the gastric crisis of tabes, as well as some which are said to be due to intestinal obstruction. The author continued citing cases in which most probably the symptoms were due to tabes and were referred to other causes.

ON THE ROLE OF SYPHILIS AS A CAUSE OF LOCOMOTOR ATAXY. *By Prof. W. Erb, Leipzig.*—His statistics published in one hundred new cases of typical tabes in male adults showed:

Cases *without* previous infection, 12 per cent.

Cases *with* previous infection, 88 per cent.

(With secondary syphilis, 59 per cent.)

(With chancre, without secondary syphilis, 29 per cent.)

The first symptoms of tabes after infection, occur from five to fifteen years after infection; a considerable number occurs in three to five years after.

From statistics gathered by the author he concludes that there must be a certain etiological connection between syphilis and tabes. He inclines towards the unicists' view in regard to syphilis. At any rate, the absence of most, or even of all the so-called secondary manifestations of syphilis, is by no means proof for the non-syphilitic nature of the previous chancre. Only after decision of this question, would we be entitled to state that tabes, in 90 per cent. of all cases is occasioned by syphilis as one of the etiological factors.

PERFORATING ULCER OF THE FOOT AS CONNECTED WITH PROGRESSIVE LOCOMOTOR ATAXY. *By Prof. B. Ball, Paris and Thibierge.*—Perforating ulcer of the foot is, in such

cases, the consequence of the spinal disease, as in the "joint disease," which has been brought before the medical public by Charcot and Ball. The local disease is more especially connected with certain symptoms of locomotor ataxy, and as shooting pains, absence of tendon reflex and other trophic lesions. The perforating ulcer may be cured while the symptoms of locomotor ataxy follow this progressive course.

ON SOME POINTS IN THE PATHOLOGICAL HISTOLOGY OF THE SPINAL CORD. *By W. B. Kesteven, London.*—The lesions investigated by the author were:

1. Of the Vessels.—Congestion becomes sufficiently intense to cause diffused redness. In other instances it is partial and irregular. Inflammation, in the acute form, seldom attacks the substance of the cord; in the sub-acute or chronic form, it is the cause of "softening." Dilation is a common change in the condition of vessels. Permanent enlargement is the result of repeated distension and atrophy, or absorption of surrounding tissues takes place, giving rise to "peri-vascular spaces."

2. Of the Nerve Fibres and Neurolgia—Here we find atrophy of the sheath and distortion of the different regions and tracts of the cord. Also find different forms of degeneration, miliary, colloid, gelatinous, etc. It is in the changes in these tissues that we trace sclerosis, consisting of excess of connection or hyperplasia of the neurolgia.

3. Of the Cells.—In these are found atrophy and degeneration—the latter traced through various degrees of pigmentation. An entire disappearance of the cells and their process is sometimes observed.

MORBID ANATOMY OF BRAIN AND SPINAL CORD. *By G. Pierret, Lyons.*—This paper was an account of the author's researches on locomotor ataxy, and especially of the sensory system in man; and the relations which exist between the sensory, motor and vaso-motor tracts.

ON ANEURISM OF THE LARGER CEREBRAL ARTERIES AS A FREQUENT CAUSE OF CEREBRAL HEMORRHAGE.—*By Joseph Coates, Glasgow.*—The author stated that cerebral hemorrhage from rupture of aneurisms of the lower arteries, viz.: Those which lie in the meninges of the brain, as distinguished from those in the brain substance (nutrient arteries), is much more frequent than is generally supposed. It was pointed out that, though the aneurism is

on the surface, yet the blood accumulates chiefly in the brain substance, and may even be absent from the meninges, and so the source of the hemorrhage may be overlooked. Almost all cases of cerebral hemorrhage in persons under fifty are due to this cause.

LOCALIZATION OF DISEASE IN THE BRAIN AND SPINAL CORD SO FAR AS PATHOGNOMIC AND DIAGNOSTIC. *By Prof. C. E. Brown-Sequard, Paris.*—The author showed that, although there is no symptom which alone possesses an absolute pathognomic value concerning the seat of the disease, there are, however, morbid manifestations, the coëxistence of which establishes almost certainly, and sometimes with certainty, that special parts are diseased.

He spoke of the connection of aphasia with disease of the third frontal convolution, the island of Reil and the occipital lobe on the left or on the right side; of brachial, crural, facial paralysis, and of other kinds of monoplegia with lesions of certain convolutions; and of a large number of others for which we have no space.

He stated that we have made considerable advances in diagnosis by localization of disease in the cerebro-spinal centers, but much less than is generally believed.

EPILEPTIFORM CONVULSIONS FROM CEREBRAL DISEASE. *By J. Hughlings Jackson, London.*—This paper was a very long and interesting one. The starting points are hand, face or foot. The *ranges* are very numerous. We may make three, arbitrarily: mono-spasm, hemi-spasm, the other side of the body may be convulsed. The *march of spasm*, when limited, may go down a limb; it usually goes up. The author then considered the suddenness of onset, rapidity of spreading, and duration of seizures. The post-paroxysmal condition (paralysis) and the various hypotheses in regard to this were considered. Post-epileptiform aphasia, affection of consciousness, locality of lesion (anatomical diagnosis), physiology of lesion and pathology of lesion next occupied his attention. He concluded with treatment, stating that it was, in a large measure, empirical.

ON THE MOTOR PORTION OF THE TRIGEMINAL NERVE. *By F. Faesebeck, Brunswick.*—The author contended that the so-called small portion of the trigeminus, is an independent nerve, and in no way mixed with the third branch of the fifth, bringing dissections to sustain his position. Prof. Lushka gave the name *nervus masticato-*

*rius* to this nerve; but the author considered the name *nervus profundus facialis* a better one.

ON THE DEEP ORIGIN OF SOME OF THE CRANIAL NERVES. *By Giambattista Laura, Turin.*—The cells of the hypoglossal are provided with processes passing into the roots of the nerve; the fibres that appear to rise from the raphé really spring from cells interposed between the raphé and roots. The cells grouped along the roots and in front of the nerve, send their nervous processes outwards and backwards. The cells of the *nucleus ambiguus* (Krause) send their nervous processes inwards and backwards, as far as the nucleus of the pneumogastric; they then turn inwards, forming the marginal fasciculus.

The cells of the so-called external auditory nucleus send their processes inwards and forwards into large fasciculi which cross the facial nerve and go towards the raphé.

The cells of the facial, abducent and trigeminal nuclei are provided with processes which pass into the respective nerve roots. In the whole medulla oblongata, from the glosso-pharyngeal to the trigeminal nerve, there occur very large scattered cells, which send their processes towards the raphé, and backwards.

THE RELATION OF NERVE SUPPLY TO MUSCLE HOM-  
OLOGY. *By D. J. Cunningham, Edinburgh.*—The object of this paper was to test the value of *nerve supply* as a guide in our endeavors to trace a muscle. Very few anatomists have looked to this. Dr. Ruge, of Heidelberg, has enunciated the doctrine of an invariable and an immutable relationship between nerve supply and muscle homology. The muscle is to be regarded as the end organ of a nerve, and, therefore, when a muscle alters its position and connection, its original and typical relations can always be identified by its nerve of supply. The author said that the nerve of supply, whilst in the main a good guide, was not always infallible.

CHEMICAL INVESTIGATION AND DIAGNOSIS. *By A. Wynter Blyth, London.*—The author detailed the process of analysis to be employed in each case. He gave examples of the quantitative determination of the urine in hypochondriacs and general paralytics. He next considered the blood of the insane, giving methods and results, and the manner of making examinations.

THE NATURE OF SYMPATHETIC OPHTHALMITIS AND THE

METHOD OF ITS TRANSMISSION. *By Prof. Snellen, Utrecht.*—The explanation of sympathetic ophthalmitis, as a reflex action of the ciliary nerves is insufficient. As a clue to further research, the hypothesis recommends itself that sympathetic ophthalmitis is to be regarded as a metastatic specific inflammation, in which special parasitical inflammatory elements are conveyed over to the choroid of the sympathizing eye, through the dilated lymph-paths.

HOW CAN SYMPATHETIC OPHTHALMITIS BE PRODUCED AFTER ENERVATION? *By A. Poncet, Cluny.*—In an eye enucleated after enervation, for sympathetic mischief, examination showed changes of unusual intensity, due to the optico-ciliary neurotomy. The intra-ocular nerve-bundles showed fatty degeneration. The scar tissue, produced by the enervation, formed a fibrous mass, very dense, and containing many of the peripheral ends of the ciliary nerves. These nerves were affected by interstitial sclerosis, with irritative compression of the nerve fibres. The permanence of the sympathetic pains must be attributed to this lesion.

Terminal neuritis of the ciliary nerves, perhaps exists also in these cases where enucleation does not prevent sympathetic mischief.

THE CONNECTION OF CHOREA WITH RHEUMATISM. *By Prof. Steffen, Stettin.*—A definite inter-dependence between these diseases is not yet proved; and that both are often joined with endocarditis cannot be used as evidence. The relation of chorea and endocarditis cannot be fixed anatomically or pathologically. The chorea is, probably always the primary morbid phenomenon.

Cardiac murmurs occur in chorea without endocarditis. These depend on impaired function of the heart, not only through nervous influence, but also through the obstruction to the circulation of the blood, which occurs as a result of the spasmodic movements of the body.

ON CHOREA. *By Octavius Sturges, London.*—In a short summary of facts derived chiefly from cases under his own care, the author discussed the several modes of chorea, its modification at different ages, and particularly that view of the pathology of this affection, which seems to be favored by the observations of the heart symptoms, and of their variations in children, adolescence and adult life.

ON OCULO-NEURAL IRRITATION. *By Geo. T. Stevens, New York.*—Among the centripetal influences which generate nervous affections, the irritation arising from a perplexity or exhaustion of nerves in performing the functions of adjustment of the eyes must be regarded as of great importance. Where a family tendency to neurotic affections is found, the inherited tendency is often transmitted in the form of the eyes, or the condition of their accessories. Inveterate cases of functional nervous diseases, not amenable to other forms of treatment, will often yield readily to the simple process of relieving the eyes from muscular or refractive disabilities.

THE RELATION BETWEEN OPTIC NEURITIS AND INTRA-CEREBRAL DISEASE. *By Prof. Th. Leber, Gottingen.*—Optic neuritis in cerebral disease is a true inflammation, and is not essentially different from other forms of papillo-retinitis, either in the character of the vascular congestion, or in the nature of the histological changes. It is, on the other hand, very different from the hyperæmia caused by venous stasis and the lesions which depend upon it. It is the optic nerve which is the path of communication between the affection of the brain and that of the eye.

Intra-cranial tumors act as of foreign bodies provoking inflammatory congestions and hyper-secretion of fluid. The same effusions are found in meningitis, when it is followed by papillitis. The origin of papillo-retinitis in cerebral diseases may, then, be explained by assuming that the intra-cranial inflammation produces serous effusion, which passes into the optic sheath, and exerts an irritating action on the papilla and neighboring parts of the eye.

NEUROSES OF SENSATION IN THE PHARYNX AND LARYNX. *By Prof. J. Schnitzler, Vienna.*—Anomalies of sensation in these parts are very frequent. The usual forms of neuroses of sensation are observed here. Sometimes no strict separation between the single forms is possible, often associated with similar neuroses in neighboring organs; or either starting point or local symptom of general neuroses of sensation. Objective symptoms are generally quite negative, or, at any rate, unimportant, and out of proportion to subjective complaints. Causes are partly central and partly peripheral. Treatment is mainly to be directed to original cause. Best remedy in most forms is electricity—constant current.

PROF. LOUIS ELSBERG, of New York, had a most interesting paper on the same subject. He opened it with the literature of the subject, and then defined neuroses of the throat. Then followed the anatomico-physiological basis, and then a classification. The occurrences, causes and pathogeny, symptoms, diagnosis and prognosis, were all considered in due order. As to treatment, he recommends instrumental, medical and electrical, according to the indications furnished.

THE EXCITING CAUSE OF ATTACKS OF HYSTERIA AND HYSTERO-EPILEPSY. *By Graily Hewitt, London.*—The object of the paper was to demonstrate, by the results of clinical observation, that in cases of hysteria and so-called hystero-epilepsy the exciting cause of the attacks is distortion of the uterus, produced by flexion of the uterus upon itself, either backwards or forwards. The attacks are the result of reflex irritation. The evidence consisted in the recital of eighteen cases, observed during a period of ten years. Complete relief was obtained by removing the uterine distortion. Out of the eighteen cases, complete relief was obtained in seventeen; the subsequent history is not fully known in one case. Of the eighteen cases, twelve were anteflexion and six retroflexion.

ON THE INFLUENCE OF UTERINE DISORDERS IN THE PRODUCTION OF NUMEROUS SYMPATHETIC DISTURBANCES OF THE GENERAL HEALTH, AND AFFECTIONS OF SPECIAL ORGANS. *By Arthur W. Edis, London.*—The author directed attention to the prevalence of sick headaches, often lasting for years, due entirely to some uterine disorder. The morning sickness of pregnancy was shown to be frequently dependent upon some flexion, an inflammatory condition of the body or cervix of the uterus, or some well recognized uterine disorder.

Uterine epilepsy frequently depended upon ovarian irritation. Other neurosal affections, such as asthma, neuralgia and chorea, were not infrequently dependent upon some overlooked uterine disorder. Amaurosis, asthenopia and numerous other pathological conditions of the eye were found due to morbid conditions of the uterus, as also aphonia, spasm of the glottis, sensation of choking, and other similar reflex phenomena.

THE RELATIONSHIP OF CHOREA TO RHEUMATISM, ETC. *By Stephen Mackenzie, London.*—The author bases his conclusions on an analysis of one hundred and seventy-



two cases observed during six years. He says that some cardiac abnormality is present in more than half the cases of chorea, and is due to endocarditis affecting almost exclusively the mitral valves. In eighty-seven per cent. of cases, the heart lesions persist, and that absence of murmur is no proof of absence of organic heart disease.

Rheumatism has preëxisted in nearly half the cases for certain; and there are strong grounds for believing that it has been an antecedent in a much larger number of cases. The form of heart disease met with in chorea is that seen in connection with rheumatism. That rheumatism is, in nearly all cases, the cause of the heart murmur, which so frequently attends chorea.

MORBID APPEARANCES PRODUCED BY METHODS OF HARDENING NERVOUS TISSUES. *By Geo. H. Savage, London.*—The author observed that brains and spinal cords of men, and of the lower animals, were noticed to exhibit certain changes if kept long in spirits, and they were not to be distinguished from the so-called military degeneration. This occurred in the brains of healthy men and animals, as much as in those of patients dying of nervous diseases. The changes were found in the brains of idiots, general paralytics, maniacs and melancholiacs; in the brains of rats, parrots, squirrels and monkeys. Other bodies have been found also—colloid, amyloid.

The following papers were taken as read before the Section on Mental Diseases, the authors not being present:

EXOPHTHALMIC SYMPTOMS AMONG THE INSANE. *By Geo. H. Savage, M. D.*—1.—With true exophthalmic goitre mental symptoms may occur. Three cases. Results of post-mortem examination in two cases. 2.—Some of the symptoms of the disease may occur in cases of general paralysis of the insane. Cases. 3.—Symptoms of this diseased state may recur during attacks of mental disease, and be absent in the intervals. Case. In this last case hyoscyamine had a markedly good effect,

ON THE VILLAGE TREATMENT OF THE INSANE. *By Dr. Peeters, Gheel.*—1.—What is the part actually taken by Gheel in the cure of the insane in Belgium? Is this the part it should have taken? 2.—The advantage of a family treatment, as exemplified at Gheel in the case of incurable patients. 3.—The influence of Gheel in the treatment of curable patients. The proportion of recoveries there.

MORAL INSANITY. *By Dr. C. H. Hughes, St. Louis, America.*—Moral insanity, included in the term affective insanity, exhibits functional derangement in the affective rather than in the reflective faculties.\*

1.—If both are affected, then the intellectual is not, primarily so, and no more than in ordinary passion. 2.—It is to be regretted that, so far, the chief objection has been by assertion that it must be so and so; but we have to consider what we actually find. It does not follow that because these functions are united in health that they cannot be disassociated by disease. 3.—If the intellect is not diseased in the exercise of the emotions, such as the passions, love, hate, etc., why may not some excess of these exist without intellectual perversion in the case of affective insanity, as seen after blows on the head, fevers, etc. 4.—The affective and the reflective functions are not directly related by development, or in decay. 5.—Normal mind is the sum of the aggregate display of the cerebro-psychic functions constituting the natural "ego;" abnormal mind consists of such disorder of one or more of the cerebro-psychic functions, as causes so marked a change in the natural psychical characteristics of the individual, whether principally involving the emotions and reasoning powers or will, as to make an inconsistency and inharmony in the person's character, explicable only by disease. 6.—Generally intellectual disorders exist with the affective, such as delusions; but it does not follow because one symptom is absent that the disease does not exist. 7.—Clinically, affective insanity—moral insanity—does exist. The author protested against the metaphysical objections of the inseparable union of functions. 8.—Justification of the term moral insanity. 9.—The non-recognition of the disease may be disastrous to the patients from legal points of view.

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## ANATOMY AND PHYSIOLOGY.

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TOOTHLESS THROUGH LIFE.—The *British Medical Journal* refers to the recent death of a man at the age of eighty years, who is reported never to have had any teeth during his whole life.

RELATION OF BRAIN STRUCTURE TO INTELLIGENCE.—The *Philadelphia Medical and Surgical Reporter*, of May 7th, notes "a growing doubt among the most competent biologists as to any fixed relation between brain structure and mental function," and that the theory of their mutual relation and inter-dependence is an untenable theory. "There is a *tertium quid*" it says, in the evolution and action of intelligence which we can not yet put our finger on," and quotes as an "example in point," the recent lecture of Prof. Calderwood, of Glasgow, who, quoting Sir John Lubbock, said that "though the anthropoid apes rank next to man in bodily structure, ants claimed that place in the scale of intelligence." It was Sir John who watched an ant work from six o'clock in the morning to ten o'clock at night without intermission, carrying one hundred and eighty-seven larvæ without intermission. From this and other considerations, Prof. Calderwood concludes that comparative brain structure is not the sole measure of intelligence, and Dr. Brinton thinks that the peculiar structure of ants, coupled with their high intelligence is rather *antagonistic* to the theory which couples intelligence with complexity of structure.

STATE OF THE CAROTID PULSE DURING INTELLECTUAL LABOR—M. E. Gley, of Nancy, after having called attention to the researches of Tanhoffer and of Mosso, gives his conclusions as follows:

- 1.—During intellectual labor there is an increase in the number of heart beats, which seems to be in a direct ratio to the intensity of the attention brought into activity.
- 2.—Dilation of the carotid artery and diastole, more marked, of the carotid pulse. These are phenomena the reverse of those found about the radial artery.
- 3.—The above characteristics are more marked when attention is stronger.
- 4.—They persist for some time after cerebral activity has ceased.
- 5.—These modifications do not depend upon changes either of cardiac action or respiration.
- 6.—They depend on a vaso-motor influence.—(*Bull de l' Acad. de Med.*), *St. Louis Med. and Surg. Jour.*

A great many years ago Richerand, the French physiologist, called attention to this subject and related the case of a literary friend whose carotid pulse when he was actively at work would register 120 beats per minute and would fall to normal when his brain was at rest.

A NEW EXPLANATION OF MICROCEPHALY is made by Dr. G. Joseph, to consist in diminished calibre of the

carotid, he having found these carotid canals diminished about one-fourth their normal size in a microcephalic brain dissected by Jensen.

GOLTZ COMES forward with the startling assertion that in the electrical excitation of the brain as practiced by Fritsch and Hitzig, it is not the gray matter but the underlying white substance that responds to the stimulation of the electrodes. He destroyed the white substance under the motor zones and produced convulsions in the opposite side. When he only touched the gray matter, no convulsions followed.—*Vide* Dr. Ireland's Report in October number, *Journal Mental Science*.

THE ANGULAR GYRUS AND VISION, according to Dr. J. C. Dalton, has recently repeated and confirmed Ferrier's destructive experiment in this region in the brains of dogs and monkeys, with this additional result that his experiments *permanently* (instead of *temporarily* as Ferrier's did), destroyed visual sensibility and consequent sight of the opposite eye.—*Vide* N. Y. Med. Record, March 26.

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## CLINICAL PSYCHIATRY AND NEUROLOGY.

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CURIOUS CASE OF DOUBLE PERSONALITY.—M. Langlois, in the *Annales Medico Psychologiques*, for July, 1881, recounts the following case: G—— entered the asylum of Dijon at the age of twenty-nine; at present, he is sixty years old. He is imbecile, very loquacious, spoilt, and having a simian attitude. The skull is malformed and asymmetrical, the left side is much more developed, The ear presents the traces of a former hematoma of the auricle, and the mouth deviates strongly, and shows the presence of a right facial paralysis.

There is no hesitancy in speech, inequality of pupils, or paralysis of the limbs. The cutaneous sensibility is not dulled, and the patient had, some two months previous, a single epileptiform attack, which has not recurred. Despite his loquacity, he constantly repeats a few stereotyped phrases, beyond which it is impossible to obtain any answers. He always speaks to himself in the third

person, and nearly every morning greets us with: "G—— is ill, *he* must be taken to the infirmary."

He often kneels, boxes his ears vigorously, then laughs loudly, joyously rubs his hands together and cries out: "G—— has been naughty, *he* is doing penance." Often he seizes his wooden shoe, strikes his head with violence, drives his nails in the flesh, and tears open his cheeks.

His moments of fury are sudden, and, during these acts of mutilation, his face expresses intense anger, to which succeeds an air of satisfaction as soon as he has ceased correcting the other one.

When not over-excited by his imaginary feelings, we have asked him where G—— was. "Here," he answered, striking his chest. Touching his head, we asked him to whom it belonged. "That," said he, "is the head of C——." "Why do you strike it so?" "Because C——'s head needs punishment." "But a few moments ago you struck G——." "No," said he, "G—— has not been naughty to-day, it is the head of C—— that must be beaten."

For several months, the same questions were repeated and were followed, invariably, by the same answers. Generally it is G. who is dissatisfied, but sometimes it is the opposite, and then it is not the head which receives the blows.

This double personality is the more remarkable as no analgesia exists. It would be very much easier to understand that our alienated person, insensible to pain, should strike himself with such fury, were the blows unfelt.

Another fact, and no less curious, is the coincidence of this mental state and the cranial asymmetry, the traces of a former hematoma, and the palpable proofs of cerebral hemorrhage of the right side.

It may then be reasonably supposed that there exists an antagonism between the two hemispheres, the source of the illusions which a rudimentary intelligence ascribes to G. and to the head of C., alternately, and in which one personality seeks to revenge itself upon the other.—  
[Ohmann-Dumesnil]

THE INCREASE IN NUMBER OF CASES OF PERETIC INSANITY AND ITS CAUSES.—Dr. A. Saroze, in the July number of the *Annales Medico Psychologiques*, devotes quite a lengthy article to the elucidation of the above subject, remarking that about thirty years ago these cases were

comparatively rare. He arrives at the following conclusions :

The increase during the last ten years is considerable.

In the South of France, especially where it was such a rare occurrence that its existence was denied, general paresis attains to-day a very high proportion, and almost equal to that observed in the North.

The principal causes of this increase are the abuse of alcoholic drinks which have become common, and the greater cerebral activity, characteristic of the present day; these causes act in the same manner, producing cerebral congestion.

Next in order are venereal excesses and the abuse of tobacco. Their action relative to that of the preceding causes, in our opinion, plays but a secondary part.

The proof that these are the true causes of the increase of paralytic insanity, is that women who are very little exposed to them, by the very nature of the quiet and regular life which our social state ensures them, are very rarely attacked by this disorder, and the proportion has remained the same for them; moreover, in the rare cases observed in women, the same causes are found to operate as in men.

This very remarkable transformation of mental into paretic insanity, is a pathological characteristic of our era, in regard to mental diseases, as in the middle ages, where the different forms of religious folly, demonomania, etc., existed. It is to be feared that, under the influence of the same causes, which do not tend to diminish, and by hereditary transmission, the proportion of cases of paretic insanity will continually grow larger.—[*Ohmann-Dumesnil.*]

CASE OF CONSCIOUS TRAUMATIC EPILEPSY.—Dr. Rotter, in a Polish medical journal, reported in *Centralblatt fuer Nervenheilkunde*, August 1st, 1880, describes the case of a baker, who upon going into a house struck himself on the low roof and felt himself fixed. [We abridge the account from the psychological retrospect department of the *Journal of Mental Science.*] Pain at sight of injury, but no wound or blood was found, and the consequent swelling soon passed away. After a while a swelling reappeared, opened, bled and closed, and the patient seemed all right for three years, when brief attacks of rigidity of the left arm appeared three or four times a week, followed in one month after their first appearance by sudden giddiness and general convulsions, causing him to fall to the

ground, though without the loss of consciousness. He saw everything going on about him and called his wife, but she could not understand his stammering.

In three hours after a lighter and briefer attack followed, succeeded by general trembling. His age was 45 years, size medium, constitution relaxed and complexion pale. He lay in bed with an anxious expression, general weakness, stiffness and giddiness. The understanding, motor powers and bodily functions were unaffected. An opening through the skull was finally found at the sagitocoronal junction. One day, on combing his hair, the patient brought out from the opening a piece of nail, seven centimetres long, two thick and two broad. The wound soon thereafter healed and all symptoms disappeared, treatment having, however, previously greatly mitigated them in number and gravity.

CEREBRAL LOCALIZATION IN RELATION TO THE DIAGNOSIS OF INTRA-CRANIAL TUMORS.—Dr. Byron Bramwell thus presents this subject in the March number of the *Edinburgh Medical Journal*:

Recent clinical researches, more particularly those of Dr. Hughlings Jackson on the human subject, and the experimental researches of Hitzig, Ferrier, and others on the lower animals go to show, that the convolutions in the neighborhood of the Fissure of Rolando (more especially the ascending frontal and ascending parietal convolutions), are concerned in the production of voluntary movement, and that individual movements and groups of movement are, *specially*, I do not say entirely, represented in particular portions or centers of this motor area.

These centers functionate—*i. e.*, discharge or liberate motor nerve force—in obedience to the commands of the will. (The center for the will is probably scattered over an extensive area of the cerebral cortex.)

From the motor cerebral cortex, conducting fibres, pass downwards, and convey the motor nerve force, which has been liberated by the generating centers, to the muscles on the *opposite side of the body*.

In their passage, the conducting fibres from connections with masses of gray matter in the cerebrum, pons and medulla.

The conducting fibres first converge towards the internal capsule and lenticular nucleus of the corpus striatum (forming the corona radiata); pass through these structures, and form the descending fibres of the crus cerebri.

This structure contains, therefore, all the motor fibres passing from the hemisphere on the same side, *i. e.* all the motor fibres for the opposite side of the body.

Below the crus cerebri the motor tract successively passes through the pons and medulla, and at the lower end of the medulla decussates in order to reach the opposite side of the spinal cord. (The whole of the pyramidal motor fibres do not decussate in the medulla. A small part passes down on the same side and forms the inner portion of the anterior column. The proportion of direct fibres passing down in the anterior column is usually, according to Flechsig, from three to nine per cent. of the whole pyramidal tract).

From the motor tract, as it passes through the pons and medulla, bundles of nerve fibres are successively given off, which cross the middle line, become connected with masses of gray matter (the trophic nerve nuclei), and then leave the nerve centers as the cranial motor nerves.

The position of the tumor must materially influence the character of the symptoms, *i. e.*, the extent and distribution of the spasms and paralysis. Where, for example, the tumor presses upon the crus cerebri, the paralysis will involve all the more highly specialized muscles (face, arm and leg) of the opposite side. Where it presses upon a limited portion of the cerebral cortex—say the facial center—the resulting paralysis or spasms will be limited to the facial muscles. Where the lower part of the medulla is pressed upon, the facial muscles will escape, for the facial nerve has passed out at a point above the level of the lesion.

The increased and perverted function which results from irritation (or loss of control) of motor nerve tissue by the pressure of a tumor is manifested externally as spasm and convulsions, and the lesion in such a case is said to be a "*discharging one*."

The *character* of the convulsions, whether clonic or tonic, depends in part at least upon the nature of the nerve tissue which is irritated, whether gray matter or conducting fibres.

*Clonic* spasms (epileptiform convulsions) might theoretically be produced by irritation of any motor gray matter in the cerebrum, pons or medulla. As a matter of fact, I believe clonic spasms are generally due to discharge of motor centers in the *cerebral cortex*.



The extent and distribution of the spasms varies with the extent and amount of gray matter which is discharged. All degrees of clonic spasms (epileptiform convulsions), from the twitching of a single muscle or a portion of a muscle to general (bilateral) epileptiform convulsions, are met with. Limited epileptiform convulsions are very characteristic of a "coarse" cortical lesion; and it is important to remember that, in such cases, the irritation has a great tendency to extend to and involve adjacent and more distant centres, until in some cases, the convulsions become general, and affect the muscles on both sides of the body. Three illustrative cases follow.

NERVE SPLICING.—Dr. F. Lange, of New York, recently removed a neuroma from the left brachial nerve at its exit from the axilla, and spliced the interpace of excised nerve with four and a-half inches of the sciatic of a dog after Glucke's method. Result not yet determined as to the resumption of function.

HALLUCINATIONS IN GENERAL PARALYSIS CONSIDERED IN RELATION TO A CEREBRAL LOCALIZATION. *By Dr. Julius Mickle.*—In the October number of the *English Journal of Mental Science* is a paper confirmatory of the statement made by the author in the July number of this estimable periodical to the effect that "the views at present accepted as to the exact localization of the cortical sensory centers are not supported by the morbid anatomy of general paralysis in the marked manner we would anticipate, supposing the localization in question to be precise and exclusive as has been fully asserted.

A CONTRIBUTION TO THE STUDY OF NERVE-STRETCHING IN TABES DORSALIS. *By Prof. Westphal*, in the *Berlin Klin.*, No. 8, 1881.—Prof. Westphal reports the result of his microscopic examination of the spinal cord, taken from a subject which was operated upon by Dr. Langenbuch, in 1879. The patient was supposed to be suffering from tabes dorsalis, and the ischiadicus in both limbs was stretched with the astonishing result of curing the ataxic symptoms, relieving the severe pains and restoring the normal diminished sensibility in the lower extremities. Three months later, an attempt was made to stretch the large nerve trunks of the upper extremities, but, unfortunately, the patient died from an epileptic attack, which came on during the chloroform narcosis.

The conclusion to which the author comes is that the

diagnosis was a mistaken one, for he found no trace of disease in the posterior columns, and these are invariably affected in tabes. Moreover, the clinical history of the case did not correspond to the usual course of that affection. It reminds me of that remarkable disease, as yet but little understood, which is known as "acute ataxia." A case of this kind, observed by the author, made a good recovery without treatment.

In conclusion, the author states that he does not desire to discourage surgeons from the operation of nerve stretching in genuine cases of tabes dorsalis, but, in the interests of science, he would beg them to consult a specialist in nervous diseases, in all cases, before operating.—*Saunders*.

BRAIN TROUBLES IN DYSPEPSIA.—At a meeting of the Société de Biologie, held May 21st, 1881, M. Leven stated that he had made about one hundred observations in regard to this subject, and which have demonstrated to him the existence of dyspepsia in cerebral phenomena not noticed heretofore; for example, cerebral commotion. He has seen patients in the streets, suddenly struck with true apoplectic attacks, lasting ten minutes or a quarter of an hour, they were thought to be epileptic, whilst really they were simple dyspeptic persons, whose cerebral accidents disappeared as soon as the digestive functions were reëstablished. In the dyspeptics, the intelligence remains intact, there is never mental alienation, certain cerebral faculties may become altered, veiled, so to speak, but the *ego* remains entire, the patient judges himself in his disorder. This trouble of the higher faculties, this weakening of the will, of activity of memory, and of the power of speech is easy to observe; certain subjects are incapable of determining anything, it requires an effort for them to decide upon accomplishing an act that is almost instinctive, such as picking up an object they have accidentally dropped; in these, memory is diminished, and speech difficult, especially after a meal. A general sadness invades them, they see the dark side of everything, but that which differentiates them from the hysterical is, that they generally present cutaneous hyperæsthesia, but never anæsthesia.

M. Laborde wishes to limit some of these conclusions. Certainly, he does not deny the influence of diseases of the stomach on the brain, and no one would think of doubting the symptoms of anæmia from a dyspeptic

cause; but M. Leven has, perhaps, forced results somewhat in regard to this interpretation. There are many persons to whom digestive troubles are dependent upon nervous affections, and it would be exaggeration to try to find in the stomach the point of departure for all the phenomena. M. Laborde attended a woman who was dyspeptic, who also had delirious sensations, characterized by continual apprehension and fear of being bitten by a mad dog; soon, the partial delirium increased, and she began to fear the contact of a person who might have touched a dog; finally, the delirium extended to the fear of contamination by aliments; to-day she is about entirely demented.

M. Leven replies that M. Laborde's patient was nothing else than a lunatic, and he spoke only of hypochondriacs; these latter, notwithstanding what alienists and physicians who have, up to the present, but poorly studied these cases, say they cannot be included in the list of the demented.

M. Laborde asks for proof that certain hypochondriacs are not delirious. That a well directed alimentation may benefit them is possible; but that is no reason for saying that the starting point of all the phenomena is in the stomach. Patients must be observed a very long time to see a delirium, partial in the beginning, degenerate later into dementia.—[*Le Progres Medical*, translated by Ohmann-Dumesnil.]

THE GAIT OF CHRONIC ALCOHOLISM, ACCORDING TO WESTPHAL, consists in lifting the limb at the hip joint to a considerable height, when the foot is carried forward, while the leg remains fixed at the knee and the foot falls quickly and abruptly to the ground as in stamping. As this abnormality of stiff is not frequent, Westphal having only observed it in two cases it may be due to complication. Westphal would not suspect latent tabes, unless he found absent tendon reflex.

UNILATERAL TRISMUS.—The *Journal of Nervous and Mental Disease*, for July, referring to a case of this kind, reported by Dr. Thenee, of Eberswald, and transcribed into several of the American journals as the only one of the kind reported, calls attention to a case reported by Dr. H. M. Bannister, in its issue of January, 1876.

The remarkable feature of Dr. Thenee's case, as noted by the *Journal of Nervous and Mental Disease*, is the long

duration—four days of the one-sided symptoms before both sides became involved.

THE NEW CORTICAL CENTER described by Dr. Græme M. Hammond has its largest group of cells in a locality not fixed by physiologists as a motor center—the primary arched gyrus between the sylvian and the anterior sylvian fissures, “nearer to Firner’s center for exciting partial divergence of the lips than to any other motor center, but it does not exactly correspond to that.” The cells Hammond described are longer, more ovoid and circular than the pyramidal ones of Betz and Mierzejewski.

There is abundant room in the non-motor areas of the cortex for location of scores of “centres,” and we expect soon to see the neurological novelists possessing all this territory and “staking off” their claims like adventurous miners in search of bonanzas in a new Eldorado, some to find wealth and some to be disappointed. But it is only in this way that rich discoveries are made.

A NEW PARALYTIC FACTOR IN WRITERS’ CRAMP is noted by Wernicke (*Arch. fuer Psych.* p. 192), in paralysis of the extensor longus pollicis.

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## EDITORIAL

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THE ATYPIÉ OF CRIMINALS’ BRAINS.—Prof. Benedict, of Vienna, before the recent International Congress, at London, reiterated the views expressed in his book on the “brains of criminals,” relative to what he terms the law of atypic (a deviation from the type form which he claims to have discovered in the brains of criminals.) He rests the demonstration of this law on fifty preparations made from the brains of malefactors. He asserts that these preparations teach that “the law of atypic consists mainly in the general coalescence of the typical fissures and in the general appearance of the fissure arrangement which one sees in the various classes of mammals.”

The number of demonstrations are too few upon which to found a law of this kind as applicable alone to the criminal class, especially without an equally diligent search for similar atypic crania among the remaining large class

of irregular lived, non-criminal persons and in view of the fact that quite a similar atypié may be found in others than recognized and detected criminals; and in view also of the very well formed brains of some noted criminals, executed for capital offences, such as that of D. Webster, the brutal murderer of Dr. Parkman.

The successful planning, execution of and escape from, many forms of crime require such complex movements that we would not, *a priori*, expect to find "a general coalescence of the typical fissures," or "an appearance of the fissure arrangements which one sees in the various class of mammals," such as Benedict has found in a limited number of the criminal class examined, and the atypié demonstrations of this author, would seem to apply only to the caught and caged criminals rather than to the average skillful villian. The subject, however, is in its infancy and the labors of Benedict are probably the advance rays of a more effulgent light on an obscure subject.

THE INJUSTICE TO THE INSANE AND FEEBLE MINDED who are entitled to the legal exculpation which cerebral disease and congenital brain deficiency give to violations of law, having the semblance of criminality, is apparent in the fact that if the unfortunate victims of cerebral defect or disease is still further so unfortunate as to have made for him the wrong kind of hypothetical case and plea in extenuation of the crime charged—a hypothesis which the lawyer fails to establish as truth, the consequence falls upon the prisoner. For instance, if a plea of insanity—a change of character brought about by *disease* of the brain, is urged, and only feeble mindedness, even though sufficient to extenuate the crime exists, the prisoner does not get the benefit of the legal extenuation. So also if a specific form of insanity is set forth, but not established by the facts of the hypothetical case and recognized by the experts from the description, even though some other morbid mental condition exists beyond the diagnostic skill of an attorney, it is possible for the prisoner to be defrauded of his right to the protection of disease, through failure in medical discernment and diagnostic skill on the part of his attorney. This should not be so. Crime impelled by cerebral disease or congenitally defective brain should be excused by the law always, and the discovery of the defect should be assured, not by the chance of a lawyer, stumbling upon a correct diagnosis and proving a sufficiently

correct assemblage of symptoms to establish the probable existence of the disease guessed at, to the satisfaction of the expert witnesses, who are denied the employment of their presumably more skilled methods of examination, but by *personal expert examination, aided by all the methods of searching out the phenomena and establishing the existence of morbid mind known* to psychological science.

Apropos of the above the brain of Redemir executed for murder in St. Louis last year is said to have presented several congenital anomalies, among them an almost transverse direction of the sulcus of Rolando.

It will be remembered that the plea of insanity interposed in his behalf was not made out by his attorneys to the satisfaction of the principal experts on the trial, and imbecility was not even suggested by the defence though it is doubtful if that could have been established, since he is said to have killed a fellow workman, and the capacity for organized labor is not associated with imbecility as commonly comprehended.

THE IMPORTANCE OF EXCLUDING persons with the insane diathesis and marked neuropathic instability from positions of great public responsibility and mental strain is equally worthy of the attention of legislators, with the subject of color blindness so successfully urged upon the attention of railroad companies by Dr. B. Joy Jeffries. It might be looked upon as a very *uncivil* service reform to weed out the unstable *neuropaths* from office and cause the loss of many an efficient political agitator, but still it would be a real reform to have only steady brained people in the government service—the army, the navy and other departments. A public officer, liable to become insane, or what is the same thing, to get on an insane spree in any public emergency when great coolness and judgment are required, may act as calamitously to the public interests as a color blind engineer.

IT IS SINGULAR that one should write a book on disorders of the procreative organs in man, and have to confess that he has seen but one case of psychical impotency (meaning imaginary sexual inability), out of the many of these sexual monomaniacs and melancholics, who besiege the physician of average repute, for relief from fancied incompetency, but more singular still, that an author who makes such a confession in one paragraph should in another, assure his patient that he "*had met with many cases of a similar nature.*" Yet, Dr. S. W.

Gross', (*Disorders of the Male Sexual Organs*, p. 62), makes both of these statements, while the stock in trade of a large number of scheming quacks is to develop this sexual hypochondriasis by their adroitly worded "advice to young men," "the victims of early indiscretion, sexual exhaustion," etc., and by their "vital restoratives" to catch these weak ones, and for a consideration, cure them.

**TO PREVENT PUERPERAL INSANITY.**—After a severe attack of puerperal insanity, the nervous system must take a long time to recover thoroughly; and, although the patient may ostensibly be well, and not need asylum or other treatment, yet I believe that a considerable period, without any extra calls on the system, generally is necessary for total and complete recovery. When I discharge patients who have recovered from puerperal mania, I advise that a year should elapse before another pregnancy; but usually such advice is unattended to, and a quickly following confinement brings a recurrence of the insanity. The most marked case that has lately come under my notice was E. J——. Father drowned himself. She had been always rather nervous. Came in on May 15th, 1877, laboring under puerperal mania. This was two weeks after confinement. She was excited for a long time, but gradually got better, and was discharged on March 11th, 1878. I expressed myself strongly to the husband, pointing out that in this case, from the family history, it was even more essential than in ordinary cases that a considerable interval should elapse before the next confinement. This patient was re-admitted, pregnant, on September 21st, 1878. She continued in a state of excitement during her pregnancy, and was confined of an apparently healthy male child on December 15th, 1878, 288 days from her discharge, so that she probably became pregnant within eight days of leaving. She is still in the asylum, an excited, hysterical female, at present entirely devoid of self-control. Had she not become pregnant, I think that in all probability she would have retained her reason.

In nearly all the cases of insanity from over-nursing that come under my observation, the patient has been nursing up to the time of being brought to the asylum. In the majority of cases, after the milk has been got rid of, the patient afterwards treated with iron and tonics, recovery is very speedy. If the patients were warned about such an occurrence as nursing proving too much

for them, if the too great drain on the system were prevented by partially feeding the child, or entirely ceasing nursing, when the bodily health was seen to suffer and the patient was becoming dull, the attack might be averted. I have always thought that medical advice was too tardily sought in such cases.

The time between gestations, even when not followed by immediate insanity, does not meet with the consideration it merits. I frequently see cases of mental disease, in many complicated with phthisis, in which numerous and rapidly following pregnancies have undoubtedly been the cause; and in a considerable number of middle-aged and oldish women, with lowered vitality, broken down constitutions, absence of nervous power, and consequent dementia or melancholia, I have, on scrutiny, clearly realized that unduly rapid pregnancies or miscarriages have been the cause of such a state. And yet in cattle this is avoided; a breeder of good stock, always after a miscarriage, does not allow another pregnancy till the time he would have done so, had the female gone the full time.

THE INTERNATIONAL MEDICAL CONGRESS, which assembled in London from the 2d to the 9th of August last, appears to have greatly surpassed its predecessors in grand and useful work.

Its recorded proceedings—even the abstracts before us—speak far beyond our power to portray in its praise. Elsewhere we give a brief outline of the contributions in the section on mental diseases, and a *precis* of such matters gleaned from the other sections, as will serve to whet the appetite of the readers of the *ALIENIST AND NEUROLOGIST* for the full proceedings when they shall be published. Dr. Lockhart Robertson presided over the section on mental diseases. The Vice-Presidents being Drs. Crichton Brown and Dr. Maudsley; the Secretaries were Drs. Gasquet and Savage; while the following named composed the council: Drs. Ashe, Dublin; Blandford, London; Clouston, Edinburgh; Eames, Cork; Mitchell, Edinburgh; Munro, London; Orange, Broadmoore; Rayner, Hanwell, Shaw, Banstead; Siebald, Edinburgh; Hack Tuke, London; Williams, Hayward Heath.

The work of the Congress speaks its own encomium, and has impressed itself upon the age, and will be felt by the future. No event of the times has done such good for scientific and progressive medicine as this great Congress.



It has honored England, and England has done honor to medicine in the reception she gave its representatives on that grand and glorious week in August. The light of the medical world's *savants* was there, and the world will be brighter and better for the illumination of their presence.

THE TRI-STATES MEDICAL SOCIETY will be in session in this city three day, October 25th, 26th and 27th, in the ladies' ordinary of the Lindell Hotel.

A large attendance of the representative medical men of this section will be present, and many valuable papers will be read.

We gladly welcome this distinguished body of earnest workers to our city and hope the profession here will attend and acquaint themselves with its members. They were stung a little at Louisville last year. We hope they may go away from St. Louis with pleasant memories. Give them the encouragement of your presence at their sessions.

THE DOTONATING SOUND sometimes complained of by cerebral hyperæmics, and occasioned probably by a sudden and minutely circumscribed vascular rupture and pressure somewhere in the first parietal convolution about Ferrier's auditory center, has been made the diagnostic sign of a new disease by one of our homeopathic brethren. If gentlemen will persistently ask of their patients for this symptom, perhaps they may hear of it more frequently.

This special sound as distinguished from the different varieties of tinnitus—bubbling, hissing, etc.—is that of a pocket pistol report. One of our patients awakened one morning under the impression that he had been shot.

THE DIFFERENCE IN HOSPITAL PHYSICIANS in respect of appreciation of psychiatric literature is shown on our subscription books. In some institutions, every medical officer down to the third assistant, and one or two of the trustees, takes and pays for a copy of the *ALIENIST AND NEUROLOGIST*. In others, the superintendent takes one for his private library, and the hospital one. In others, the superintendent and one or more of the assistants each take a copy. A very few superintendents—not half a dozen in the United States, and not a single one in Canada—do not take it. One superintendent gets the use of a copy from a neighboring medical club, and one has too much medical literature already. One assistant physician writes for a recommendation for a

hospital position, who confesses that he takes no periodical psychiatric literature at all. It is needless to say we are not aiders and abettors in fostering ignorance in medical high places. The medical man who does not regularly read either the *ALIENIST AND NEUROLOGIST* or some other equally instructive journal of psychological medicine, and yet seeks an hospital appointment, is either not aiming to make a useful medical officer, or is too ignorant to know his deficiencies.

We hope to live long enough to see thorough medical qualification—psychiatric as well as executive—one of the enforced tests of medical preferment in all hospitals for the insane, and we shall labor zealously to that end.

There is not too much psychiatric periodical literature extant for asylum officers, and most of them realize that fact, and take, at least, all that is printed in the English language, *i. e.* the chief medical officers do. We do not think the assistant physicians read as much of this kind of matter as they ought, and hope they will all begin a reform in psychiatry by sending us their subscriptions for 1882 at once. A few volumes of the *A.* and *N.* will make a good library of psychiatric literature.

THE APPOINTMENT OF DR. H. M. BANNISTER, one of the editors of the *Journal of Mental and Nervous Diseases* to the position of first assistant physician to the asylum for insane at Kankakee, was noted for our last issue, but left out by the printer. This is a judicious appointment. We should like to see the trustees of all the other State hospital pay attention to special fitness by reason of neurological acquirements of all similar appointees.

THE THIRTY-SIXTH ANNUAL MEETING of the British Medico-Psychological Association, held in London on the 2d of last August, and succeeding days of the week, was attended by an unusually large number of members. The venerable Earl of Shaftesbury honored the meeting with his presence, and many distinguished foreigners were there.

The following officers were selected, and Glasgow, Scotland, was designated as the place of the next.

Officers and Members of the Council for the Year 1881-82: President Elect, Prof. W. T. Gairdner, M. D.; Treasurer, John H. Paul, M. D.; Editors of Journal, D. Hack Tuke, M., D.; G. H. Savage, M. D.; Auditors, E. S. Willet, M. D.; Honorary Secretaries, E. M. Courtney, M. B., for Ireland; J. Rutherford, M. D., for Scotland; H. Rayner, M. D., General Secretary.

New Members of Council: T. S. Clouston, M. D., J. A. Lush, M. D., W. J. Mickle, M. D., Herbert Major, M. D.

Dr. Clouston having retired from the editorship of the *Journal of Mental Science*, regret was expressed at his action, while his long faithful services in that capacity were duly recognized in the thanks of the Association.

The following new members were elected ordinary members: Charles Mercier, M. B., F. R. C. S., late Senior Assistant Medical Officer, Leavesden Asylum; William Johnston Patten, B. A., M. B., L. R. C. S., Assistant Medical Officer, Three Counties Asylum, Stotford Baldock, Herts; T. P. O'Meara, M. D., District Asylum, Carlow, Ireland; J. Droyer, M. D., District Asylum, Castlebar, Ireland; George Snell, M. R. C. S., Assistant Medical Officer, Berbice, British Guiana; Harry A. Benham, M. R. C. M., Assistant Medical Officer, Royal Lunatic Asylum, Dundee; Charles Moulsworth Tuke, M. R. C. S., The Manor House, Chiswick; Samuel A. R., Strathan, M. D.; Assistant Medical Officer, East Riding Asylum; John H. Parker Wilson, Surgeon, H. M. Convict Prison, Brixton, E. G. Geoghegan, M. D. Assistant Medical Officer, Borough Asylum, Southampton.

The following gentlemen were elected honorary members: Dr. Brosius, Bendorf-Seyn, near Coblenz; Dr. Brown-Sequard, Paris; Dr. Benedikt, Vienna; Dr. Fournié, Paris; Dr. Hughes, St. Louis, Mo.; Dr. Krafft-Ebing, Gratz; Baron Mierzejewski, St. Petersburg; Dr. Peeters, Gheel; Dr. Semal, Mons; Dr. Tamburini, Reggio-Emilia; Dr. Virchow, Berlin; Dr. Voisin, Paris.

We have not space at this time for the interesting address of the president, Dr. Hack Tuke, the remarks of Lord Shaftesbury and others, or the papers, all of which appear in the October number of the *Journal of Mental Science*.

WHY ASYLUMS COST SO MUCH MONEY.—“MADISON, July 26.—The State Board of Supervision held a meeting to-night, and listened to the report of the architect who made the examination of the insane hospital at Mendota. He says that the front wall was the most mischievous and shabby he ever saw; *it must be firmly anchored immediately and rebuilt next year. Better ventilation is needed.* The only source of fresh air introduced in the building in cool weather is through a tunnel from the boiler-room and laundry, the filthiest place about the asylum. The air is discharged in a garret where the water tanks are kept and thus the drinking water is contaminated. The architect recommends the building of shafts extending from the basement to the roof to carry off the foul air.—*Newspaper Item.*”

The preceding item indicates one at least of the sources of expense in the construction of hospitals for the insane and suggests a place at which to begin reform in hospital construction, namely at the foundation and prevent incipient errors of hospital erection, built according to the notions of the inexperienced, inexperienced and indifferent as to the real wants and needs of those who are to tenant these buildings. It is not alone defective walls and ventilation that are at fault, but it is the ornamental and dangerous geometrical rather than safe and useful stairway; the handsome transom, the fragile window, the fancy door and the many suicide suggestions that have to be replaced by the practical superintendent after the architect and building committees have taken their departure (and their per cent. of the spoils often), that add so much to the aggregate cost of these structures. The additional land that maturer experience suggests to be purchased after it has been enhanced in value by proximity to the hospital, also adds greatly to the aggregate cost of these institutions.

In short, it is the after alterations and additions, the making over and the rearranging, the remedying of perceptible blunders of primary construction that makes the costs count up. The moral of all this experience is to select an experienced physician to advise with the architect before plans are perfected, and purchases completed and closed. Let the intended commander of the ship say whether he thinks the craft seaworthy in which is to be risked so many valuable lives before it is put to sea.

THE TRIAL OF GUTEAU will probably be of as great interest to the profession as the case of his distinguished and lamented victim. His attorney will interpose the plea of insanity in his behalf, and has offered to prove that one D. W. Guteau, brother of defendant's father, was insane, and died in the insane asylum in New York many years ago; that one Augustus Parker, a cousin of defendant, a son of his father's sister, was insane, and died four years ago in the insane asylum in Cook County, Illinois; that another cousin of defendant, one Abbie Maynard, a daughter of another sister of defendant's father, has been insane for many years, and is now confined in an insane asylum in Michigan, and further that Luther W. Guteau, father of the defendant, was a monomaniac on the subject of religion for many years; and that on different occasions and at the time and place of

shooting, defendant's acts and words on that occasion showed unmistakably that he was insane.

PAINFUL NEUROMA OF THE SKIN.—Dr. Louis A. Duhring, Professor of Skin Diseases in the hospital of the University of Pennsylvania, gives, in the October number of the *American Journal of Medical Sciences*, the post-mortem report of a case of this rare affection, the clinical history of which was originally reported by him in 1873, in the same journal. An illustration shows the brachial plexus which had been divided at the former operation, but the cut end had reunited by means of a dense mass of cicatricial fibrous tissue. The disease was ascertained to be a skin disease strictly speaking. No other structure was in any way involved. A representation of the microscopical appearance of one of the tumors also appears as an illustration to this article, which shows the disease to be technically known as *neuroma amyelinicum* of Virchow. The case therefore was one of true neuroma of the skin.

SUICIDE IN ITS MEDICAL AND MEDICO-LEGAL RELATIONS. A very interesting article, entitled "A Consideration of the Medical and Medico-Legal relations of Suicide, especially in regard to its Occurrence in the United States," is contributed by Royal Whitman, Interne at McLean Asylum, Somerville, Mass., to the *American Journal of the Mental Sciences* for October, 1881, in which the medico-legal status of suicide is discussed; including its relations to insanity or criminality. Conclusions are deduced from the census tables of the United States, that the proportion of suicides to inhabitants is much larger among foreign than among native population, and that suicides among the natives of Germany are equal to suicides of the natives of all foreign countries. May is the favorite month for self-destruction in the United States. The greatest number of female suicides occurs at the age of from 30 to 33, while the greatest number of male suicides occurs at 45 to 50. Hanging is the most common method with men, and poison with women.

ONE OF OUR BRETHERN, overworked and weary of editorial strife, lately heralded the fact and went abroad for a little *sun* and *air*, taking with him also a wife. He has returned and proclaims himself *belle-cosily* fixed and *belli-cosely* inclined no longer. What a taming influence has matrimony on some boisterous souls.

PRESIDENT GARFIELD.—There are times of public calamity, when every heart is stricken with a personal grief. Such a time is the present. Sorrow for the chief magistrate is universal and the mourning with which we drape this page may be seen on every hand symbolizing the universal sorrow. Never in the history of this land since the death of its first chief executive has sorrow been so wide spread. When the martyr Lincoln fell at the assassins blow, the people of the North mourned for him with poignant grief, but Garfield's tragic death has stricken every section of our now united country with inexpressible sorrow, and brought together alienated hearts in closer friendship, and cemented them in patriotic devotion to country, just as the sudden death of a justly loved and honored father hushes the dissensions of an unhappy household and buries all strife in the grave of the dear departed.

No great public man ever died in this land in whom the medical profession were more deeply interested. The psychic grandeur displayed through all his long suffering; his noble courage and conspicuous manhood displayed under the consciousness that he carried a probably mortal wound. The calm appreciation of his really dangerous condition, his mental clearness of perception, unmurmering patience, willing, unfretful acquiescence in all measures proposed and executed for his relief, won the hearts of his medical attendants, while the great alleviation and prolonged resistance to an excruciatingly painful and necessarily mortal wound (as the latter was proven to have been by the *post-mortem*), attest the skill with which he was treated. In the light of the last facts connected with the tragic event, the wonder is that a life from the beginning doomed should have been by judicious medical management prolonged so long. That the ball was not found where it was supposed to be and that it was encysted proves the wisdom of the decision of his surgeons not to make further and disastrous attempt to extricate it from its hidden bed.

It would have been interesting to neurologists to have been informed whether the pathological condition of the cord, if any, was in harmony with the almost regulative symptoms below the point of injury.

## A NOBLE TRIBUTE TO THE MEMORY OF A GREAT AND GOOD PHYSICIAN.

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ISAAC RAY, M. D., LL. D.—The Trustees of the Butler Hospital for the Insane have placed upon their records the following memorial of the late Dr. Isaac Ray, as an expression of their respect for his character, and their grateful appreciation of his services as the earliest Superintendent and constant friend of that Institution :

Isaac Ray, M. D., LL. D., died at his home in Philadelphia, March 31st, 1881, in the seventy-fifth year of his age. Born in Beverly, Mass., January 16th, 1807; educated at Bowdoin College; studying his profession in Boston and at the same college. He began his career as a physician in Portland, Maine. He soon turned his attention to the special study of mental disease, and in this department of his profession he attained an eminence surpassed by that of none of his contemporaries. After a few years of service as the head of the State Hospital for the Insane, in Maine, he was appointed Superintendent of this hospital in 1846, before the work of building it was begun. Immediately after his appointment, he spent some time in Europe for professional improvement, and especially for studying the methods of hospital construction and administration. On his return, he superintended the erection of every part of our original building, the plans for which he had also assisted in preparing. From its opening for patients, in December, 1847, to January, 1867, he remained at its head, and conducted its affairs with singular wisdom and efficiency, and, at the same time, with a fidelity and generous devotion to all its interests, which commanded the admiration of those with whom he was associated. The system which he established here, and the principles which he wrought into his administration of the hospital, have borne the test of long experience; they have been continued and expanded by his successor, and they are not likely to be materially changed. Nor, even while separated from it and living in a distant city, did he ever withdraw from it his interest and care. He has frequently visited it, he has made generous contributions for its benefit, and has, at all times, manifested the liveliest satisfaction at its increasing prosperity and usefulness. Indeed, this Hospital, in no restricted sense, may be regarded as the creation of

his genius and labors, and with it his character and his name will be forever associated.

But Dr. Ray was something more than the able executive head and wise manager of this institution. He was also a great master in the humane science of his profession, and a writer of foremost celebrity on the subjects which that science embraces. His principal work, "The Medical Jurisprudence of Insanity," has passed through six editions in this country, and has also been published in Great Britain. It is held as a high authority in courts of law in both countries, and is an acknowledged guide for all who seek instruction on the subject of which it treats. His treatise on "Mental Hygiene" is filled with striking practical suggestions and positive precepts of the highest importance, relating to the subtle influences which affect the health of the brain and the mind. His annual reports were always carefully prepared essays of great scientific and professional value. To these are to be added his public discourses at professional meetings, and his very numerous contributions to literary and scientific magazines and reviews, all of them marked by unusual grace and purity of expression, as well as by profound and earnest thought. The published writings, taken together presents the outlines of a comprehensive philosophy pertaining to the origin and nature of mental disease, its causes and characteristics, its treatment and its serious bearings on the welfare of the human race. In its philosophy there is nothing narrow or illiberal. The disciple of no exclusive school, the votary of no single theory or class of theories. He searched for the hidden sources of insanity in the artificial and excited life of society, as well as in psychological peculiarities, in hereditary descent, or individual habits and training. He held his conclusions with firmness, but without dogmatism; and he was ready to modify them at the bidding of true science or of enlightened experience. The leading aim of his professional writings clearly was to call attention to the transcendent importance of mental health alike in the individual and in the family, and to set forth the manifold dangers to which it is constantly exposed from the habits of society and the careless conduct of human life. In the accomplishment of this most worthy aim, so essentially connected with every social and every domestic interest, no writer of the age has achieved more signal success.

The memory of a life so filled with beneficent services



for his fellow-men, of a character so exalted and pure, of a mind so comprehensive and philosophic, and at the same time so practical and sagacious, of a renown so honorably acquired and so modestly borne, will long remain among the cherished traditions of this Hospital, and be to us and to our successors an inspiration and a guide in fulfilling the trusts which we have been called to discharge."

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## OBITUARY.

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DR. LORENZO MONTI.\*—"Unusually mournful has been the death of Dr. Lorenzo Monti, which took place on the 17th of May, 1881. He was medical superintendent of the asylum for insane of Parma, in Colorno, and has died at the age of forty years.

"From all that we have learned from numerous journals, as well political as scientific, it seems that Dr. Monti has been the victim of tyranny, injustice and treachery. The last, above all, devised by the financial administrative commission of the asylum which he directed, placed him unsuspectingly, in a position in which he could not evade the grave responsibilities inseparable from his high office, and the embittered grief resulting has cut him off in the vigor of his years.

"We unite in the general sorrow, lamenting extremely that men of such merit as Monti should so often be placed at the mercy of ignorance and roguery. Monti had secured the admiration of the scientific world by his numerous valuable publications, and he would have completed other important labors, had his premature death not snatched him from his friends and from science."

It would appear from the preceeding sad record, that the United States of America is not the only country in which officers of insane hospitals fall "victims to the tyranny, injustice and treachery" of the ignorant or designing men under whom it is too often their misfortune to have to serve.

The readers of the ALIENIST AND NEUROLOGIST had the opportunity of seeing in, the number for January last, an able article from the pen of Dr. Monti on "*Cerebral*

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\*Translated from the "Pizani Sicilian Gazette of Medical and Psychological Sciences," of June, 1881.

*Locatizations.*" No one who carefully perused that instructive article can fail to lament the loss to psychiatric science consequent on the untimely death of so promising a contributor. For our own part, we certainly had looked forward, with high expectancy, to the future enrichment of the literature of our specialty, from the pen of this eminent Italian alienist. But nothing in this wondrous world would seem to be certain save uncertainty. Vigorous youth, promising health, high mental endowments, and sterling integrity, would seem to be but puny protectives against the assailments of designing, treacherous antagonists, supplemented by the blind malice of their ignorant dupes. *Poor Monti!* His name is another to be enrolled in the "noble army of martyrs." We consecrate his memory with the tribute of our tears. *Requiescat in pace.*

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#### NOTES FROM THE HOSPITALS.

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NEW YORK, Bloomingdale Asylum.—The total number of patients under treatment during the year was 298, of whom 147 were men and 151 were women. There were 114 admissions and 84 discharges. Of the latter, 24 were recovered, 30 were improved, 7 were unimproved, and 23 died. Dr. Nichols observes that insanity is not only increasing in proportion to the population of the more enlightened nations of the world, but that it is becoming less curable. The prognosis in the cases of those received during the year is strongly confirmatory of the second part of the proposition, as no less than 48 of the admissions—33 men and 15 women—were affected with forms or complications of disease that are insusceptible of either complete or permanent amelioration. 16 men received during the year, and 13 patients (12 men and 1 woman), under treatment at the beginning of the year, were suffering from general paralysis of the insane. Death in 10 cases of paresis took place at periods after admission, varying from three months and nineteen days to three years, six months and thirteen days—the average duration of treatment having been one year, ten months and twenty-four and four-tenths days. It usually requires

a series of years to lay a foundation for paresis, as for gout, but the attack is generally sudden, and marked by such urgent symptoms as require immediate treatment. It follows that the duration of the recognized disease does not, as a rule, exceed greatly the period of treatment. Twenty years ago the average life of a patient afflicted with general paralysis was thought to be one year, but experience shows that the average has been extended to at least double the period first assigned to it. As the disease increases in frequency, it appears to decrease in exhaustive activity, and there has probably been some increase in the skill of its ameliorative treatment.

NEW YORK, State Lunatic Asylum, Utica.—The aggregate number of patients under treatment during the year was 1088—565 men, and 523 women. The admissions numbered 468; and the discharges, 478—recovered, 155; improved, 66; unimproved, 197; not insane, 14; died, 42. The managers, in their report, review the attempts of certain classes to bring the management of institutions for the insane into public disfavor, some of whom go to the extent of advocating the discontinuance of asylums and all interference with the insane. They conclude by quoting from a speech delivered by Lord Shaftesbury before the members of the Medico-Psychological Association of Great Britain, in July, 1880, as follows: "Now, at the present time, there is rather a tendency in another direction, a tendency which ought to be rather checked; because, recollect, we who are in charge of the legal duties in regard to lunacy, must consider not only the interests of the insane, but also the interests of the public. We must be very careful, indeed, how we hastily let loose upon the public persons whom we are not quite certain have been restored to the power of self-control. The tendency now is to let out everybody who is shut up, and henceforward to shut up nobody at all."

Under the caption "Custody and Treatment," Dr. Gray enters, at length, and in a most interesting manner, into the history and results of the non-restraint system.

WASHINGTON, Government Hospital for the Insane.—The total number of patients under treatment during the year was 1120—852 males, and 268 females. The number of admissions was 223; and of the discharges, 195. Of the latter, 72 were recovered, 36 were improved, and 81 died. Discussing the questions of the care and treatment

of the chronic insane, Dr. Godding makes the following observations which we quote:—

“The recently erected buildings for special classes have afforded great relief to our overcrowded wards, and another year’s test of their practical working has only confirmed the opinion that in some such provision for the quiet classes will be found a satisfactory solution of the great social problem of the care of the chronic insane. Startling results of almost daily occurrence show that it is unsafe to leave them at large in the community, humanity commands that they shall not be left neglected in almshouses; what is wanted for them is care in comfortable but expensive homes, connected with our present curative establishments for the insane. \* \* \*

This (Relief Building) is a building with outer and interior walls of brick, constructed and furnished at a time when both labor and material were exceptionally low, and the whole expenditure did not exceed \$250.00 per patient for the number now occupying it. Allowing that this would be an unsafe figure on which to base an estimate at present prices, as it certainly would, still it is demonstrable that accommodations which are all that are needed for the comfortable care of the mild cases of insanity can be provided at an expense, for furnished buildings, of less than five hundred dollars per patient.

“When it shall become the settled policy of the States to care for all their insane, taking them out of the town and county almshouses, placing them in homes connected with the existing hospitals, and giving them workshops and tillage lands, it will be a greater advance in their treatment than any that has been made since the earnest philanthropy of Miss Dix first called attention to the condition of this unfortunate class, and created so many of our present hospitals; which was a noble charity, and meant for all, but practically it has been found that the liberal and expensive provisions for the cure of insanity, admirable and necessary as it is for a part, has proved so great a tax that no State has thus far been willing to provide such elaborate asylums for the whole.”

The ground plan and elevation of the Relief Building are appended to the report to meet the many requests for information in regard to it received from those interested in the erection of similar structures elsewhere.

## REVIEWS.

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THE ENUMERATION, CLASSIFICATION AND CAUSATION OF IDIOCY\* is a subject of paramount interest to the human family, and especially of importance is a correct knowledge of its causation. Interchangeable as it is with insanity as a prime causative factor and in fact closely allied to it in its manifestations, being *the insanity of the undeveloped brain*, (if we may be allowed to so define it); all that pertains to this subject, gleaned from the domain of observation and demonstrable fact, is mineral wealth to the seeker after those truths which tend to reveal the rocks that imperil the perpetuity of the human race, as it advances before the resistless wind of modern civilization.

The philanthropist, the lawyer, the legislator, the divine and the physician may alike read such researches as Dr. Kerlin's with profit and melancholy pleasure. We commend them especially to the new institute of heredity, as the best documents it could circulate, with which to arouse the apathetic as to the perils which lie in the pathway of vicious descent. We have only space for Dr. Kerlin's judicious conclusions, which are fully justified by the context of this excellent essay. Dr. Kerlin is the superintendent of the State Institution for Idiotic and Feeble Minded at Media, Pennsylvania, and a careful and trustworthy observer, who, with rare opportunities for observation joins a discriminating and comprehensive mind.

1. Through the profession of medicine only can come true and saving views as to marriage, child begetting, child rearing, and race culture.

2. As a very large portion of the imbecile children are first-born, and as a very large portion of imbeciles are said to have been delicate in their infancy before any imbecility was noticed, may not the skill and attention of the physician be exercised more directly for the instruction of young mothers in the intelligent care of their conceptions and of their babes, especially in families where hereditary tendency to mental and other disorders is known to exist.

3. It will be seen by our tables that, in ten families of 100 imbecile children, there have been infelicities and antipathies arising from unsuitableness of the parties in contract to live with each other, and of a character so unfortunate that the parents have been willing to state these as the supposed cause of their children's congenital blight. Is there not in this a suggestion that a better race will be developed when woman shall regard a shameful and unfortunate marriage as more shameful than dying unwedded, and when all shall grant a difference of nobility in favor of a cultured and useful unmarried woman over an unsuccessful wife and unfit-mother.

4. If in twenty-five per centum of idiocy there is a material anxiety

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\* By Isaac N. Kerlin.

and over tax sufficient to enter as a direct or accessory cause of the child's infirmity may we not urge as a rule, that during the whole gestative period, safety to the body and brain of the embryo demands exemption of the mother from exhaustive duties and hyper-exaltation of the nerve centers, either in housework or in frivolity, particularly in families of neurotic and consumptive disorders?

5. That fifty-six per centum of idiocy should descend from strumous and consumptive families impels the conclusion that any prudent man or woman should avoid intermarriage with this diathesis, if through such union he or she intensifies this condition in a line of children of feeble bodies and frequently defective minds.

6. That in twenty-seven per centum of cases of idiocy we find as a concurrence *imbecility and insanity begets idiocy*—introduces a very serious question for the law of the State to settle, viz.: whether marriage of the evidently unfit shall be tolerated, and whether pauper imbeciles shall continue to entail on the community a burden of woe and expense that heaps up in misery the further it descends.

It seems incredible that, in an enlightened community, a woman should go on giving birth in succession to five microcephalic idiots, three of whom survive to be supported at the expense of the State so long as they shall live.

That a female insane pauper should have been discharged two successive times from a county-house, returning to a drunken husband to become twice *enceinte* with defective or idiotic progeny.

That a husband, living with his wife who is known to be insane, should go on bidding into being successive imbeciles and incompetents, apologetically explaining that his wife was in better health while *enceinte*,

It seems incredible that there should be a county in Pennsylvania where the imbreeding of paupers and pauper imbeciles of the same parentage is possible until a large family of wretched creatures is issued to scatter and propagate an infamous blood.

A CONTRIBUTION TO THE SUBJECT OF THE LOCALIZATION OF THE CEREBRAL AFFECTIONS CHARACTERIZED BY UNILATERAL CONVULSIONS AND HEMI-ANOPSIA.—*Prof. Westphal in the Charite and Annals, VI. Jahrgang.*—(Reprint).—An interesting, but difficult question in the study of cerebral localization, is to know whether a disease of some portion of the cerebral lobes is able to produce the symptom of hemianopsia. The author had the opportunity of making an autopsy in a subject who had been under his care for two years before, and presented the phenomena of hemianopsia and unilateral motor disturbances.

The symptoms were all referable to the nervous system. The convulsions were generally, though not invariably, confined to the left side, and conscious was not affected except on two or three occasions. During the attacks, there was often inability to speak, and they were followed by hemi-paresis. Several times he manifested symptoms of psychological disturbance. The attacks lasted with short intermissions for hours, or even days. He died during one of these attacks. Later in the history of the case, homonymous lateral (left sided) hemianopsia was discovered to exist.

*Autopsy.*—Pia very slightly roughened by a deposit of lymph, but no where adherent. In the right hemisphere all the convolutions situated posteriorly to the posterior central convolution, that is the upper and lower parietal lobes, the temporal convolutions and in a much greater degree the occipital convolutions appeared much thinner, more placid and decidedly less voluminous than these of the left hemisphere; also the surface of the portions named lay in a lower plane than that of the corresponding portions of the left hemisphere. The whole volume of the posterior section of the brain lying behind the central convolution seemed to be smaller on the right side than on the left. The length of the two hemispheres was equal. A horizontal section at the level of the corpus collosum showed the medullary portion in the posterior part of the right hemisphere to be very materially altered. It had a cribriform appearance and was of a much softer consistency. The affected portion was also strongly injected; blood-vessels projected everywhere from the cut surface. Microscopic examination showed the presence of numerous fat globules. In the gray substance no fat globules were discovered, nor in fact did it present any abnormal appearance whatever.

On making a second horizontal section one centimeter lower than the first, the pathological changes were less marked. The portion most effected was the medullary portion of the convolutions, while the centrum ovale in the center was unaffected. In making a third section, the posterior lobe appeared changed only towards the extreme posterior portion, while the second temporal convolution presented the merest trace of disease. In the nucleus dentiformis the blood-vessels were seen to be dilated, the cornu ammonis normal.

On making a fourth horizontal section above the first, and through the center of the lobulus paracentralis, the diseased portion was seen to lie behind a line drawn from the borders of the lobulus paracentralis and the præcuneus, obliquely forward and outward to the posterior central convolution, (which was normal in appearance.) The whole medullary portion lying behind this line presented the same appearance as seen in the first section, only less marked. The upper parietal lobe was thus included in the area of disease. The surface of all the convolutions was normal in appearance. Rest of the cerebrum normal.

The pathologico-anatomical facts which are calculated to throw light upon the subject of hemianopsia are very few. Of these one set points to affections of the tractus and thalamus opticus, while another, which has lately been more particularly observed, implicates certain parts of the cortical and medullary portions of the hemispheres. The facts, of which these two groups are composed, are very unsatisfactory, since there was, as a rule, no simple unmistakable appearance, but which, owing to their multiplicity or other quality (*e. g.*, tumors) or their comparative extent, rendered uncertain any reasoning as to the real cause of the hemianopsia. We will not speak further of the facts belonging to the first group, namely, these having reference to affection of the thalamus and of the tractus opticus, or to affections of the hemispheres, in which it was probable that they caused hemianopsia only by mechanical pressure upon the tractus—neither are those cases of service in this connection, in which the corp.

geniculata, quadrigemina or tractus was affected, as well as the entire hemisphere. Such cases have been published by Porley, Hosch and Prevost. The cases, however, in which there were localized affections, whilst the thalamus and tractus opticus were intact, and which, therefore, are of interest in connection with the study of localization, these cases we will consider in brief. In the majority of them, however, the affected portions were not strictly limited in extent. Thus, in a case of Gastrowitz's, with right lateral hemi-paresis and aphasia, in which Hirschberg had found right hemianopsia, though the ophthalmoscopic appearance was normal, and the central vision good. In this case, "the whole left posterior lobe was composed of a gelatinous, sarcomatous mass, which extended almost to the surface, especially in the occipital convolutions over the precuneus, while the surrounding portions were softened. The softening extended to the posterior and upper border of the thalamus, leaving it unaffected. Tractus optici and corp. quadrigemina were unaffected."

In a case of right-sided hemianopsia, published by Wernicke and Forster, "there was, on the convexity of the left hemisphere, an area of softening, which affected almost the whole of the cortex which corresponds to the cerebellar lobe (operculum) of the ape, and in front of the inferior parietal convolution extended to the posterior convolution. Besides this, there was a softening of the left corpus striatum. The thalamus opticus, the corpora geniculata and the corpora quadrigemina were unaffected, as well as the entire right hemisphere. A frontal section through the left hemisphere, about the anterior border of the cerebellar lobe showed that the affected cortical portion extended to the ependym on the outer wall of the posterior cornu of the ventricle, that is, that the sagittal medullary portion, by which the cortex of the cerebellum is connected with the origin of the tractus, was here, to a considerable extent, broken through."

In a case of Nothnagel's, with right hemianopsia and monoplegia of the left arm, there were found several softened spots in both hemispheres, while the nerve and tracti optici were intact. A similarly complicated condition of things was found in a case detailed by Charcot and Pitres, left hemianopsia, unilateral convulsions. Finally, I will relate a case observed by Huguenin. In a case of right-sided motor and sensory paralysis, with aphasia, right-sided hemianopsia was also present, the left half of each retina was blind. The line of demarkation was not exactly determined, it was apparently, however, not exactly vertical. There was embolism of the left arteria fossae Sylvii, and necrosis of the following portion of the brain: the convolution of Broca, the gyrus præcentralis, a portion (of which a cut is given) situated behind the fossa Rolando, extending towards the termination of the posterior ascending branch of the fossa Sylvii—the superior portions of the fan-shaped gyri of the (*island*) cortical portion. The necrosis extended deepest into the brain in the neighborhood of the convolutions of the (*island*) cortical portion. Claustrum and outer extremity of the nucleus lentiformis, partly destroyed just behind the fossa Rolandi, the necrosis extended fully two centimeters deep. Huguenin seems to have drawn the conclusion that behind the sulcus Rolando there is a spot in the cortex, the destruction of which causes hemianopsia.



Less complicated were the changes in a case of left-sided hemianopsia published by Baumgarten, apoplectic cysts in the substance of the right occipital lobe, and all three occipital convolutions partly softened; there was also a red softened spot, the size of a pea, in the roof of the anterior cornu, as well as a so-called apoplectic cicatrix, half the size of a lentil, in the center of the right thalamus opticus.

A case observed by Curschman is unfortunately not accurately described. It was that of a man, who, three weeks before death, suffered from left-sided hemianopsia, though there was no ophthalmoscopic changes on the fundus. The autopsy showed only one softened spot, situated on the right occipital lobe, extending to the surface, especially superiorly and posteriorly.

In my case also there was only one spot of softening—it was situated chiefly in the occipital lobe, but extended also somewhat further. The softening was not complete, so that it is impossible to estimate how many unbroken filaments might have still remained. In all these cases there was complete hemianopsia, and the blind half of the retina was on the opposite side to the diseased portion of the brain. In all the cases the occipital lobe was affected. The temporal and parietal at the same time also in some of the cases.

The supposition then, that destruction of a portion of the occipital lobe is the cause of hemianopsia, seems to be well supported, and is rendered more probable by the anatomical consideration that the filaments of the (*optic nerve, lehrstrahlungen*) run through the occipital lobe, and also by the experiments of Munk, who produced hemianopsia in apes by extirpating the cortex of the connex surface of the occipital lobe, the defect in vision being always on the opposite side to the one on which the extirpation was done. In all the cases the medulla was affected and Curschman's and in mine, the medulla alone seemed affected. I can not, therefore agree to consider these cases as cases of cortical disease as has now become fashionable. It is true that it is impossible to say whether microscopic examination did not reveal affection of the cortex in my case and in Curschman's, but still this requirement is hardly fair, seeing that the whole system of cerebral localization rests entirely upon microscopic appearances. Leaving this question aside, however, it seems certain that localized affections of posterior parts of the hemispheres, probably altogether or at least for the most part of the occipital lobes, are capable of producing hemianopsia.

Several reported cases seem to teach also that affections of the occipital lobes produce other peculiar disturbances of vision. What it is that determines the character of the visual disturbance, we are not able to say, though it probably depends upon the locality. Cases, too, have been observed in which there was disease of the occipital lobe, and yet no hemianopsia was observed. However, in most of these cases no examination was made to determine this point. The case of Huguenin proves the possibility of a defect in the field of vision being dependent upon affections of other portions of the vision.

With regard to the unilateral convulsions, the autopsy proves that there was in my case no affection of the so-called motor region of the cortex namely, that composed of the paracentral lobe, the two central convolu-

tions and perhaps the base of the frontal convolutions. And yet the symptoms were such as to lead to the diagnosis of an affection of the motor region. \* \* \* \* \* For my part, I can not regard it as proven by pathological, anatomical facts, that there exist in certain portions of the cortex of the human brain, as claimed by the authors, so-called motor centers, the destruction of which, in contrast to all other portions of the cortex, produces paralysis, and the irritation of which produces contraction of certain groups of muscles. Not even do the facts of physiology give support to this teaching. Hitzig remarked the peculiar character of the motor disturbances which arise from extirpation of the so-called motor centers of the cerebral cortex in animals; whilst Munk demonstrated by a series of experiments in extirpating the cortex, that it is not a motor but a sensory sphere, and that the motor disturbances result only from the disturbance of the muscular sense.

Although he takes exception to the teaching of the day in regard to localization in its narrow sense, it is not his desire to attack the principle of localization, nor to detract from the merit of the men who have sought to establish it by collecting clinical and anatomical facts. Rather would I say that such an effort was desirable under any circumstances, and of the results of their efforts there can be but one voice.—*E. W. Saunders.*

"AFFECTIONS OF THE NERVOUS SYSTEM have always existed and always formed a considerable proportion of the diseases, and those the most obscure, by which the human system has been assailed. But they have vastly increased with the increase of civilization and now constitute a far greater proportion of the diseases of mankind than in past ages and consequently they demand far more attention."—Brigham on the Brain, 1830.

Since the distinguished superintendent of the New York State Lunatic Asylum presented the subject of diseases of the nervous system to the profession of America many treatises have been written in the English tongue and much light has been thrown upon what were then obscure, unnamed and unknown affections. Since then an extensive nomenclature has been created out of well observed pathological and symptomatic differentiations of nervous diseases, and not least among the later authors contributing to that end is the author of the book before us. In its pages may be found a faithful mirror of the advance in foreign countries of the present over the past in the department of neurological medicine. The author does not do justice however to American neurological medicine and American neurologists. True, he dedicates his book to his dear friend Dr. S. Weir Mitchell, but he might have paid him a higher tribute by more frequent reference to his invaluable contributions to neurology. The same may be said in regard to the work of many other American neurologists, among them Hamilton, Seguin, Gray, Beard and others.

There is a striking contrast in this book as compared with the treatise of McLane Hamilton. In the book of the latter frequent reference is made

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\* A Treatise on Diseases of the Nervous System, by Dr. Hammond, Surgeon General, U. S. A (retired list), etc. By D. Appleton & Co., New York, Publisher.

and just credit given to Hammond for his contributions to neurology. In Hammond's book the name of Hamilton is nowhere mentioned. The physician familiar with the labors of others in the department of neurology will not fail to note this fact to the author's disparagement. The illustrations, too, such as are not modified or devised by the author, bear almost without exception, foreign names. A dynamometer better than Mathieu and an *Æsthesiometer* which is a vast improvement on Hammond's, might have been described in the book. It is too late in the history of neurological medicine for such discrimination against home authors. The book is calculated to make the impression on the uninformed that the world's neurologists are Charcot, Duchenne, Bourneville, Labadie Lograve, Friederich, Landouzy and a few others, and that about the only neurologist in this country, of note, is Hammond. Indeed, the author lays claim in his preface that the "work rests to a great extent on his own observation and experience and is therefore no mere compilation," but a careful examination will show that a good deal of the book is really extracted from foreign sources, and in fact anything else than a book made largely of the contributions of others, would be, at this day, a very incomplete treatise on diseases of the nervous system.

The reader will perceive that the author has, as he announces, "views of his own on every disease considered, and that he does not hesitate to express them. A book, if it be anything like a complete treatise on the diseases of the nervous system, written with this determination, must of necessity contain some views that are untenable, among which we class his doctrine of *anæmia*, indiscriminately applied to spinal irritation.

We think the author has made good his claim to the term *athetosis* described in the first and subsequent additions of the book, whether it be in all instances a post hemiplegic phenomenon manifest or obscure, or not. He has a queer way, however, of discrediting his own witnesses in regard to this affection. For instance, on page 326, he calls Dr. Clay Shaw in support of his views, and on page 334 he says: "It is no matter of surprise that many of the cases regarded as being *athetosis* are not instances of that affection. This is certainly the case with those reported by Dr. Clay Shaw" and others.

A good chapter on *myxœdema*, material additions to old chapters, by the author, and much new matter by Labadie Lograve and Nothnagel have been, since the last edition, added, while the chapter on insanity, in former editions, has been omitted, thus enhancing the value of the book. The striking attitudes of "Ler" from Charcot are still in the body of the book, but Dr. Mills, in the October number of the *American Journal of Medical Sciences*, portrays more *histero-a-*spects than Charcot and Hammond. With Mill's illustration, Hammond's picture gallery would be complete. There might be some danger, however, of Anthony Comstock confiscating the book, if these new attitudes were all in one addition. This part of the book will prove especially interesting to medical students.

Hammond's style is smooth, and his description good, but this has been said before, and nearly everything else that we might say in praise or censure has been so often said that it would be stale reading now to repeat it. The book and the author are well known. By some they are

favorably, by others unfavorably, received; that it has a large number of readers, is attested by the successive additions that have followed since 1871, when the first edition appeared.

We might point out many demerits in the book, but this would necessitate our indicating many more meritorious features than we have space for, and, furthermore, our suggestions might be received as the boy received the gentle reprimand, with the polite rejoinder that it was his property, and he'd pick thunder out of it if he wanted to. Hammond's book, in our view, is not as fair to his professing confreres in the United States as it ought to be, but it is Hammond's book, and he has a right to his own methods and his own views.

REPORT OF THE COMMITTEE ON THE SUBJECT OF LUNACY COMMISSIONS IN THE UNITED STATES AND FOREIGN COUNTRIES, THEIR "HISTORY, AIMS AND RESULTS." From the proceedings of the Connecticut Medical Society, 1881.—In compliance with instructions, the committee has corresponded with professional men of standing in every State, with Superintendents of Hospitals for the Insane, and with members of Boards of Charities and Commissioners in Lunacy in the United States, in the British Province, and in Europe. From these sources, a vast amount of useful information was obtained, a synopsis of which they give in their report.

The term, or office, "Commissioner in Lunacy," dates back to 1845, and has its characteristics and powers defined in Lord Ashley's famous Lunacy Act. As thus used, the office belongs to a national Board having jurisdiction of all the insane in Great Britain, whether in public or private institutions or at their homes. These institutions have reached the large number of about two hundred, and the total of insane under their jurisdiction more than 70,000. It thus appears that the magnitude of their work and the importance of the office is so great that the Board has become, in fact, one of the permanent bureaus of the British Government, whose members—one half medical and one half legal—are selected from the highest ranks of these two professions, in a population of 28,000,000, and the annual expense of this department of the government is, in round numbers, \$200,000.

So far as the United States as a nation is concerned, no attempt has been made to follow the example of the British government, but the committee find, in careful study of efforts in this direction, that many of the States have taken up the work and adopted it to the changed positions resulting from the altered political conditions.

The value of these commissions depends entirely on the character of the members appointed.

Short visits at long intervals of officials who are practically unfamiliar with the great trusts confided to them can do little good.

Commissioners who start out with the impression that they have to deal with the dishonest will be likely to do injustice to faithful officials, and accomplish little good to the afflicted. \* "The services of all these commissioners are valuable exactly in proportion to the integrity of their members, and the wisdom with which they perform their duties." When rightly selected, their inspections and reports will tend to support and

\*Thomas S. Kirkbridge, M.D.

maintain confidence in the public institutions. The committee is decidedly of the opinion that Boards of Charities cannot supersede or take the place of local Boards of Trustees or Directors. To secure good management and enlightened treatment, the regular visitation at short intervals of a committee from a permanently constituted, non-partisan Board of Trustees, serving without compensation, and having no motive in giving their time and attention but a desire to promote the best interests of the afflicted, is more likely to be thorough and useful and the best guarantee to the public against wrong and injustice. They do not believe that any system of supervision can entirely banish the unfounded prejudices, which still have a prevalence, quite inconsistent with an enlightened knowledge of the subject. There are many evidences of misunderstanding on nearly every point connected with insanity. The prejudices and misunderstandings are largely the outgrowth of ignorance respecting the real nature of insanity. Insanity is the manifestation of diseased conditions. In some the derangement is so slight as to be amenable to treatment at home. Generally, however, other symptoms complicate the case and render necessary its removal from previous influences. Unreasonable and unfounded dislike of friends; manifestations of violence toward self and others; continual excitement beyond reasonable limits, necessitate placing the subject under control more or less permanent. In other words, it becomes necessary to deprive him of free will power; and this, too, without his being able to appreciate the necessity. To the insane man his delusions are more real than real facts and events are to the sane. Hence he looks upon all restraint, whether exercised by friends or officials, as not only unnecessary, but barbarous and cruelly unjust. These are but a few of the obvious complicating factors which render this problem so difficult of solution. One fact is generally admitted: When a man loses his reason, it becomes necessary that the reason of others, in a greater or less extent shall supply its place. To that extent the movements of the person thus affected are subject to the control of others, and his property is taken from his management and disposal. Humanity demands this, the peace and safety of society demand it, and the ultimate good of all parties is promoted by it. —Isaac Ray, M.D. Hence that system of supervision which humanely provides skilled medical attendance for the insane, while carefully guarding their personal rights, will in the end receive the approval of conservative humanitarians.

The report approves the plan already pursued in Connecticut and thirteen other States, of having a non-partisan, disinterested Board of Commissioners, which, standing between the institutions and the State with ample powers to investigate and report, furnishes to the public an additional promise of fidelity, and to the charitable institutions a respite from unjust suspicions. The importance of this supervision is measurably increased in the larger States where it is desirable to have uniformity of action in the distribution of said State aid. Two of your Committee have personally examined the workings of the system in England and Scotland, and have heard the opinions of professional men who were best qualified to form a correct judgment as to the value of its labors. They believe that the English plan is an excellent one.

The Committee recommend the organization of a Supervising Board for each State—representing in its official body the characteristics and powers of the English Commissioners in Lunacy; said Board to consist of at least five members, non-partisan in spirit and eminent in psychological or humanitarian work, and say, so long as the duties and powers assigned, and the character of the members are like those of the Commissioners of Lunacy in England or Scotland, the project will receive their cordial approval.

Signed:

A. M. SHEW, M. D.,  
H. P. STEARNS, M. D., } *Committee.*

There can be no valid objections to properly qualified Commissioners in Lunacy having only advisory functions. Their visits ought to be more welcome to asylum superintendents and boards of management than the annual pilgrimage of ignorant legislative excursionists. They ought to be a good check on the spoil system so much in vogue in some States.

THE INDEX MEDICUS is a monthly classified record of the current medical literature of the world, compiled under the supervision of Dr. John S. Billings, Surgeon, U. S. A., and Dr. Robert Fletcher, M.R.C.S. Eng. It records the titles of all new publications in medicine, surgery, and the collateral branches, received during the preceding month. These are classed under subject-headings, and followed by the titles of valuable original articles upon the same subject, found, during the like period, in medical journals and transactions of medical societies. The periodicals thus indexed comprise all current medical journals and transactions of value, so far as they can be obtained.

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THE SOUTHERN MEDICAL RECORD will soon enter upon its twelfth volume. If we did not suppose every physician in Georgia and the neighboring States of the South already subscribed for it we should commend it to the profession of that section, as containing just the kind of matter for the practical wants of medicine there. It always presents a good table of interesting contents, and is ably managed by Dr. R. C. Word, Atlanta, Georgia.

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Hip-Joint Disease: Death in Early Stage from Tubercular Meningitis. By DeForest Willard, M. D., Lecturer on Orthopædic Surgery, University of Pennsylvania. Microscopical Appearances, with cuts. By E. O. Shakespeare, M.E., Lecturer on Refraction and Operative Ophthalmic Surgery, University of Pennsylvania; Pathologist to the Philadelphia Hospital. Reprint from the *Boston Medical and Surgical Journal*, Cambridge, 1881.

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Importance of the Early Recognition of Epilepsy. An Essay read before the Connecticut State Medical Society, May 26, 1881. By E. C. Seguin, M. D., Honorary Member of the Society, etc., New York. Reprint from the *Medical Record*, August 6 and 13, 1881. A Second Contribution to the Study of Localized Cerebral Lesions. Same author. Reprinted from the *Journal of Nervous and Mental Diseases*, Vol. viii, No. 3, July, 1881.

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